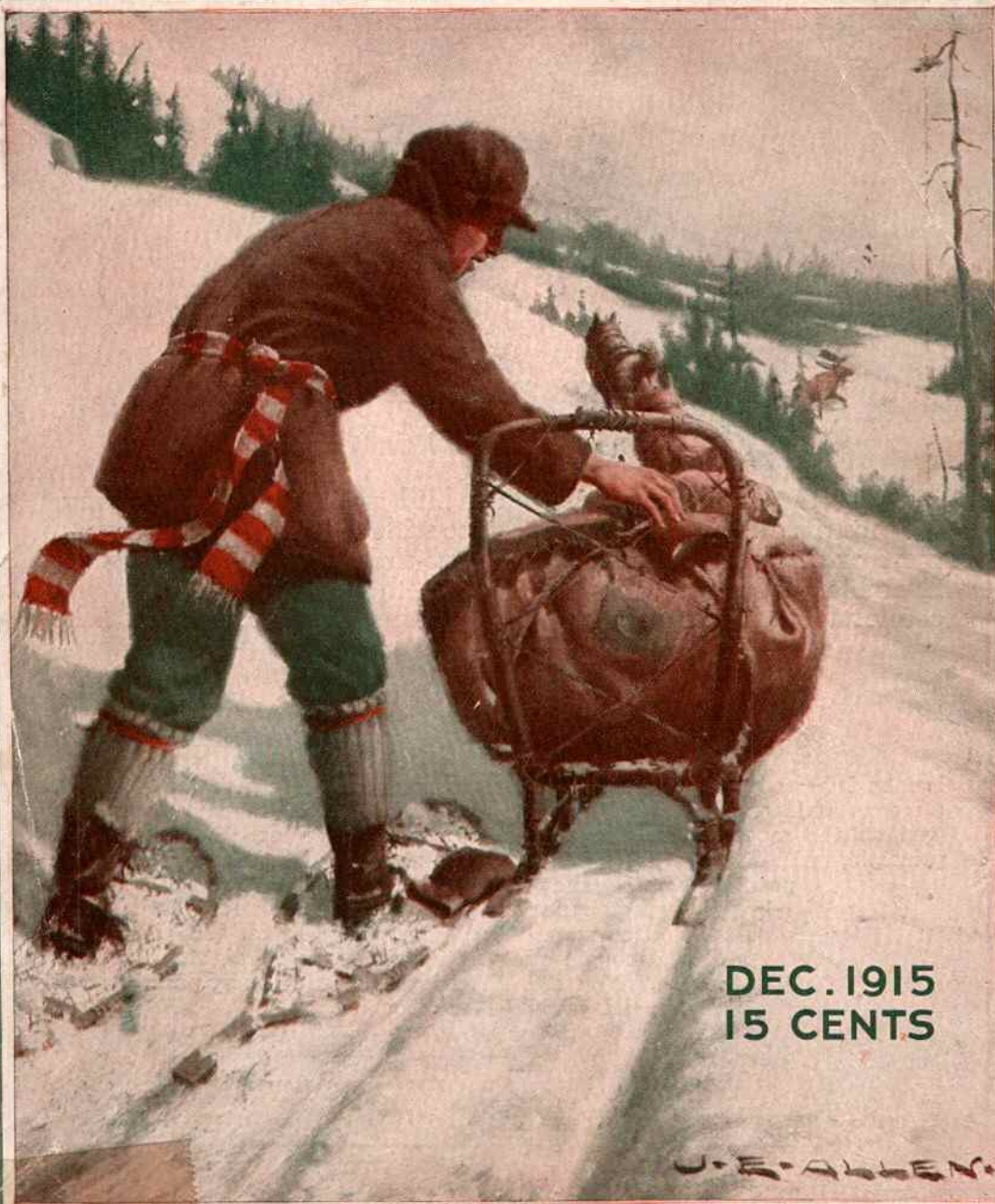


OUTER'S BOOK



DEC. 1915
15 CENTS

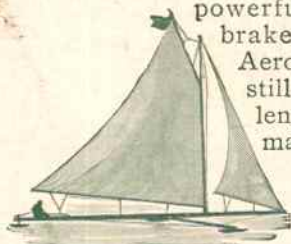


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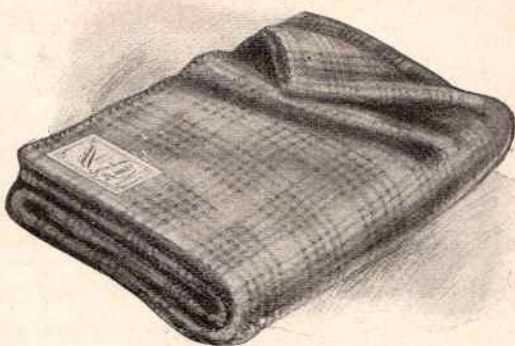
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WILSON'S KAMP KOOK'S KIT



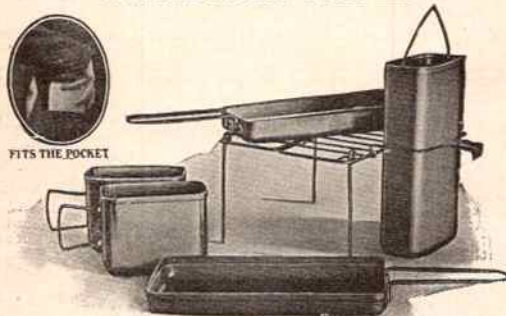
No. 101G—A complete kitchen outfit for the camper. It includes a fire jack, an 8 quart boiler, a 5 quart boiler, a frying and baking pan, a 3 quart coffee pot, a broiler, 2 ladies, cake turner, flesh fork and can opener, pot cleaner, match box, flour dredge, salt and pepper boxes, and a candle lantern—21 pieces in all. The whole outfit packs inside the fire jack, measures 14½x 10½x8 inches, and weighs 15 pounds. Sells for \$7.00.

Given for 10 subscriptions.

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FITS THE POCKET

No. 103G—The last word in cooking outfit compactness. Size, closed, 2½x4½ inches, with room inside for knives and forks. Weight, .31 ounces.

Given for 3 subscriptions.

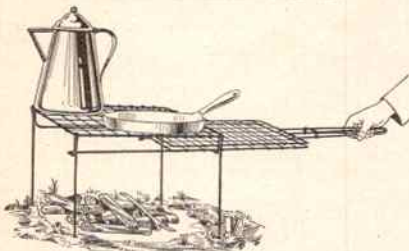
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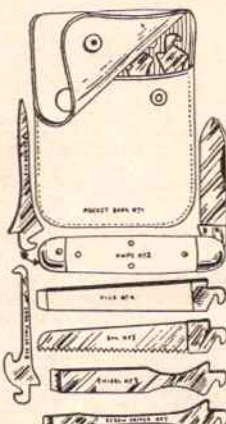
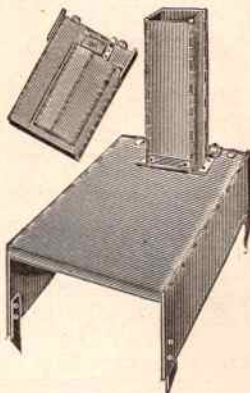
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KLUNK UNIT CAMP STOVE

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No. 218G—A neat leather pocket case 4½x3¼ inches in size, which contains a knife, reamer, file, saw, chisel, screwdriver, cork puller and cap lifter. The tools can be instantly attached or detached to knife handle and are big enough for real work. Very handy for many purposes. Sells for \$2.25.

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No. 209G—These knives have an excellent reputation among sportsmen. Keen, extra strong and well shaped. Five inch blade, leather handle, good tube sheath. Lists at \$2.25.

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No. 238G—One of the finest—hunting, skinning and camp knives made. New, improved, scored ebony handle; thin, flexible German razor steel blade, 5 inches long; total length of knife, 9 inches; weight 6 ounces; A1 well riveted, leather scabbard. Sells at \$1.50.

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No. 141S—This is the regular Iver Johnson double action revolver with a special walnut target grip. Five-inch barrel, nicely blued. In .22 rim fire and .32 and .38 center fire.

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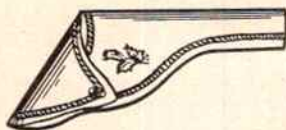
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No. 155S—Neat russet leather holster with flap and button. Stamped edges. Different sizes for revolvers from 3¼ to 6-inch barrels. State caliber and length when ordering.

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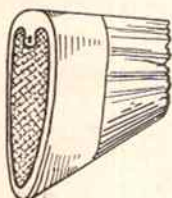
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Given for 2 subscriptions.

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Given for 8 subscriptions.



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No. 108S—This now famous sportsman's companion is too well known to need any lengthy description; 12-inch barrel handling all sizes of .22's and .44 shot and round ball cartridges. Peep rear sight, folding leaf sight and gold bead front sight, with fine leather holster. List \$18.50.

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No. 166S—The advantages of the Lyman sights are well known to all gun lovers. If you contemplate getting these sights for your rifle it would be well to write for the Lyman Catalog, since owing to the large number of styles we are not able to list all of them here. We can, however, make you an offer on any Lyman sight. Nos. 1 and 1A listing at \$3.00 will be

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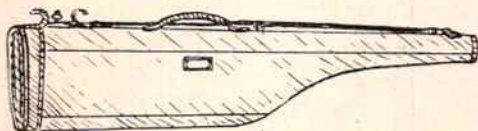
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Various styles of mountings are made for placing our No. 119S on rifles. Let us know the make, model and caliber of the rifle you desire to fit and state whether you prefer to mount telescope on top or side of barrel. We will then gladly make you a premium quotation.

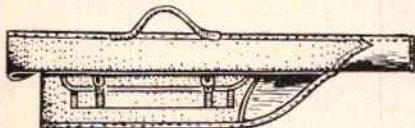
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No. 134S—The popular leg o' mutton shape, made of heavy russet leather, flannel lined, fancy trimmings and name plate, leather handle and sling straps. Sells at \$5.00. State style of gun or rifle and length of barrel when ordering.

Given for 7 subscriptions

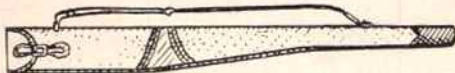
CANVAS GUN OR RIFLE CASE



No. 133S—Victoria pattern, made of heavy waterproof covert, blanket lined and rubber interlined. Full bound, lock and muzzle protected with leather, moulded leather end. Pocket for cleaning rod. Sells for upwards of \$1.50. Give style of gun or rifle and length of barrel when ordering.

Given for 2 subscriptions

CANVAS FULL LENGTH GUN OR RIFLE CASE



No. 135S—Made of 20-ounce duck, full bound, flannel lined. Muzzle and lock leather protected. Moulded leather end. Leather sling strap. Sells for \$1.50. Give style of gun or rifle and length of barrel when ordering.

Given for 2 subscriptions

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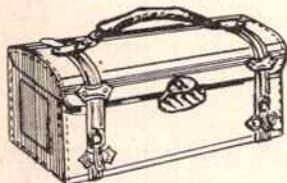
No. 159S—Russet leather with embossed edges, fine leather shell loops and shoulder straps. Belt is 2 inches wide, plain billet and buckle. Made for 10, 12 and 16 gauge.

Given for 2 subscriptions

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No. 160S—Made of extra heavy russet leather, 2 inches wide. Large nickel plated buckle. State caliber desired and waist size.

Given for 2 subscriptions



SHELL CASE

No. 153S—A handsome shell case made of heavy russet leather, embossed, with leather handle, straps, and lock, lined with tin. Capacity, 100 shells.

Given for 5 subscriptions

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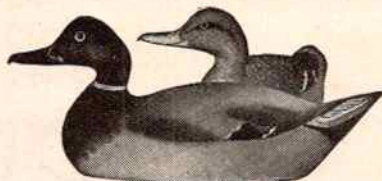
No. 154S—Neat bags made of 10-ounce tan duck, leather bound. Have extra pocket, strap and sling. Make excellent haversacks as well as shell bags. Choice of 75 or 100-shell size.

Given for 1 subscription

SHOTGUN CLEANING ROD

No. 152S—Wooden shotgun cleaning rod. Made of birch wood in three joints with brass screw ferrules. Complete with three implements—woolen swab, wire scratch brush and wiper.

Given for 1 subscription



MASON'S HIGH GRADE DECOYS

It is universally admitted that there are no better made wooden decoys than the Mason goods. All of the wooden decoys quoted on below are of their manufacture, which in itself is an absolute assurance of quality. We can furnish them regularly in the following species: Mallard, Black Duck, Blue Bill, Sprig Teal, Canvas Back, Red Head, Blue Wing Teal and Green Wing Teal. These are all packed one dozen in a crate—eight male and four female. Other species can be supplied on special order, including Geese, Crows, Mud Hens and various kinds of shore birds.

"PREMIER" MODEL

No. 257G—Hollow and flat bottomed. The drawings for these decoys were made from life and as a consequence they are mathematically correct. Special attention paid to fine details like shape of head, bill, arch of neck, etc. Ride the water exactly like the living bird. Eyes are the finest enamel, colored same as living birds. Called "the finest decoys ever made."

1 dozen given for 22 subscriptions.

"CHALLENGE" MODEL (Hollow)

No. 258G—A very high grade decoy, second only to the "Premier" model in quality.

1 dozen given for 14 subscriptions.

"CHALLENGE" MODEL (Solid)

No. 259G—Similar to our No. 258G except that they are made solid instead of hollow.

1 dozen given for 12 subscriptions.

GLASS EYE DECOYS

No. 260G—A plain, substantial decoy, carefully colored and fitted with good glass eyes.

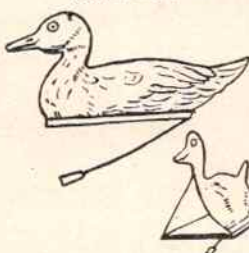
1 dozen given for 10 subscriptions.

PAINTED EYE DECOYS

No. 261G—A well made plain decoy with painted eyes.

1 dozen given for 7 subscriptions.

JOHNSON'S FOLDING PAPER DECOYS



No. 233G—These novel decoys are printed in natural colors on a tough fibred paper which is then waterproofed with paraffin. A light board float and a balancing weight complete the decoy. Ride and work very nicely. A dozen can easily be carried in the hunting coat pocket. Mallard, blue-bill, redhead, butterball, canvasback and black duck patterns. Sell at \$3.00 per dozen.

1 dozen given for 4 subscriptions

ALLEN'S DUCK CALL

No. 235G—Made of polished maple with nickel plated tip. An excellent caller.

Given for 1 subscription

OLT'S DUCK AND CROW CALL

No. 212G—These duck calls are made of best hard rubber with special rubber reeds. Not affected by moisture, and have none of that harsh metallic sound. Adjustable tuning slide enables one to imitate crows as well as all species of ducks.

Given for 2 subscriptions

MARBLE JOINTED RIFLE ROD

No. 109S—Brass with steel joints, will not wobble, bend or break. Swivel tip, wooden handle. Lists at \$1.00. State caliber and length of barrel.

Given for 2 subscriptions

Outer's Book

A MAGAZINE OF OUTDOOR INTEREST CONTENTS FOR DECEMBER, 1915

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AUTHORIZED SUBSCRIPTION SOLICITORS ARE FURNISHED WITH LETTERS OF CREDENTIALS

Yearly Subscription, \$1.50 Entered as Second-Class Matter at the Post-Office at Chicago, Ill. **Single Copy, Fifteen Cents**

Cheery Chickadee's Lesson

By WILL C. PARSONS

Chickadee, chickadee, chicka-de-de-de,
Do you know the lesson you're teaching to me—
While winter winds wail over meadow and sea—
You gray mite, as saucy, as saucy can be?

With impudent crest, you would fight for a Crown:
Your blitheness makes many a smile from a frown:
You're just made for a Victor, from feather to down—
A blessing all winter, to earth, sere and brown!

THIS is the lesson, Oh brave chickadee:
" 'Tis SPUNK, not SIGHS, that from woe sets us free,
And wins life's battle." And now don't you see
What your living example must then mean to me?



"THEN SLOWLY WE APPROACHED."

Illustrating "The Bull of Hollow Pine Ridge."

The Outer's Book

A Magazine of Outdoor Interest

VOLUME XXX
Number Six

DECEMBER
1915

The Bull of Hollow Pine Ridge

By DOUGLAS WETMORE CLINCH

WITH ILLUSTRATIONS FROM PHOTOGRAPHS BY THE AUTHOR.

THE seething "wisp" of the November storm was audible when I awoke. It was my morning to get breakfast and very soon I would kick off my share of the blankets and pull on a pair of stags. But for the moment it was luxurious just to stretch ones arms and lie there. We had been up in the Bald Mountains for three weeks now, running traps and chasing, as Allen so designated, "them lone orphans of the hills." To be sure, we had a nice "gone-back" nineteen-point head of what must have been an old whaler in his time, and more especially we had recorded images through cumbersome telephoto of odd caribou, and roaming caribou, and a few who were curious. At the moment there was a sound of scratching inside the cabin, and I knew our live mink, an entire menagerie in himself, whom we had captured a while back, was due to be packed out that day with the rest of the outfit.

Underneath the old-fashioned stove there was a raft of split dry wood and birch bark, so mustering my determination I slid

from beneath the blankets, pulled on the stags and squatted at the open end of that stove. Then very carefully I applied the flame of the match, the shavings crinkled and blinked, from the open draw of the chimney emanated a cheerful roar and I pulled forward the freshly filled kettle. Of course I washed after the approved manner of cooks, and then hauling on my laden coat I yanked open the swing-out door and, knife and platter in hand, stalked toward the "dingle." The ankle-deep snow deadened all sound of movement as the great gobs of it fluttered down. Even with the slamming of the door on my return, Allen Menzies from the far side of the berth hardly stirred till, the thinner sections of the stove assuming a red hue, the siren taunt of the fresh coffee had the desired effect. In due time we grinned at one another across the scarred oil-cloth and he muttered, "Them lads on the ridges will surely yard up with this."

Now hunting moose in New Brunswick embraces the elements of fortune, experi-

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ence, standardization of outfit and the selection of a country undisturbed save by law-abiding lumbermen. If you have the skill and the weather the best results will be obtained where, each season, only a few heads are killed in a territory as nearly virgin as possible; and in New Brunswick they are legion. For instance, in checking up by the map there will be found, well nigh the center of the province, a vast region bounded on the north by the International Railway, the west by the Canadian Pacific (from McAdam north), on the south by the Intercolonial from Fredericton to Chatham Junction, and the same line north to Campbellton. Even the new Grand Trunk Pacific where it crosses the main Southwest Miramichi, well up toward its source, does not mutilate this section, and therefore the only means of travel is over the lumber roads by team and horseback, or the rivers navigable by a scow or canoe.

On the outskirts of the square outlined there are excellent ridges to be reached from the Canadian Pacific at Plaster Rock; either south toward the North Branch of the main Southwest Miramichi, on either branch of the Tobique, and from the Serpentine. From Newcastle you can hunt the Sevogle on both of its branches; the

Tomogonops, etc., and from Bathurst and Chatham there is excellent shooting one day from the railway; and the same pertains to country all along the line between Fredericton and Chatham. Early in the season those sections toward the head waters of the Northwest Miramichi, Big South Branch Nepisiguit, North Pole, Portage Brook, Devil's Elbow, and especially Big Bald Mountain (Pringle's), and Little Bald Mountain, offer open shooting on the hills for caribou and bear; with innumerable lakes or feeding ponds where moose are a certainty. Calling is not always resorted to, but is almost invariably successful in these further grounds as the game is not disturbed to the extent that every Tom, Dick and Harry of a settlement hunter runs out for a day and "bawls his head off." Transportation is therefore the keynote and most of the back country hunting grounds have been rigged up with camps and outfits. In the winter season this is absolutely essential to decent comfort, as otherwise you would have to pack your bedding, cooking tools, axe and personal outfit and a tent going out, and a head coming back. For moose along the ridge camps are generally located about one day from the settlement.

Our route lay along an old portage some



"THE ANKLE DEEP SNOW DEADENED ALL SOUND."



THE LUMBER CAMP ON THE SOUTH SEVOGLES.

nine miles to the main Northwest Miramichi, crossing the head of "42 Nepisiguit" en route. Where we crossed the main river we were to toil straight up the watershed separating the Miramichi from the head waters of its branches the Sevoles. On one of these, Allen's father, Ed. Menzies, of Strathamdam, Northumberland County, had two camps on Lake Brook and Peabody Lake respectively. This season, however, no parties had hunted from these lower camps and they therefore were not stocked with provisions. Thus we carried supplies for three days with the idea of finding a lumber camp on the South Sevoles Allen had heard of but never seen.

We made Forty-Two Camp, which had been considerably enlarged since my trip in 1911, at noon. From this, as a headquarters, there is wonderful early shooting on what is known as the Forks, i.e., where the North Branch of the main river takes off. An early party going in here could tent half way down toward the Forks so as to be on hand in the morning, and not have to travel too far on returning in the evening. This hunting ground is particularly well suited for canoe hunting and

calling, as there are excellent cleared, or natural meadows on either side of the dead water, making possible a stalk no matter where game came out. Toward the open country we were leaving a branch trail turned off at Little Bull toward Lovel Lake. Close to this is Grant's Lake Camp, used by Ed's parties in coming up from the Nepisiguit by canoe. Near this again are two new ponds which Allen found in the spring of 1914, and which have never been hunted at all.

Despite the heavy loads and the additional effort required when packing on snowshoes, we made good progress, putting down our loads whenever a trap had to be overhauled and sprung. When we reached the river, however, we found it to be open with a considerable rise, due to the slush. This required the proper selection and felling a huge greenwood and the placing of several smaller logs. Dividing up our load we crossed dry footed what would otherwise have been a waist-high ford, foolhardy at the end of a long day and requiring time to dry out. And that night we put up at the Depot Camp with thirteen miles to make on the morrow.

It was well toward noon on that morrow, however, before we made Lake Brook for lunch. The storm had now held up and we knew in another twenty-four hours the game, which always yards up with a gale, would commence to move about with the conditions for a stalk absolutely ideal. I know I was seemingly content, for here we were with an undisturbed country, at the right season, all to ourselves. The Northwest Sevogle is moreover a natural salmon stream, demanding as its right gravel beaches and minature gulches. Here and there a hollow butt pine towered above the yellow birches and uncertain maples, spared by its imperfection till some Saxbe gale should overturn it, to form in due course the backlog of some pondering hunter's night fire. As our snowshoes "clicked" down grade through the winding open ridges, along the steep snow-blanketed portage to the river's edge, the upper branches of such a pine stood out inspiringly clear against the diluted turquoise of the still heavens.

On sighting Peabody Camp, the old childish desire to rummage dominated all else as I pondered on the heads which had stood in the hovel during my absence. Always there are clues of passed-on parties in such camps, in the form of mouldy shells of every rifle under heaven, cobweb covered labels of luxuries long devoured, and perchance some penciled record high over the bunk or washstand. As we trecked up the level, solid surface of the lake, glare-like, yet fascinating in its expanse, past the "otter set" in its always open, eternally gurgling brook, the stealth of the still-hunter toyed with the wanderlust to finally merge a personified Esau.

And then we left the lake to journey by abandoned green blazes and the sun; passed solid beaver ponds, where the tall, now yellow, meadow grass "whisped" with the grate of our snowshoes. "What place to call in the early season," I would mutter to myself, for Allen, bent on finding some hauling road of the lumber camp, was always a hundred yards ahead. It was heavy traveling, too, and when we did strike the first "yard," to ponder on the clean sawed, neatly piled spruce, we were nothing loath to stack our snowshoes and slid along on foot. "Stick out your chest," chirruped

Allen, "we'll be there in a minute." And so, unexpectedly as usual, the long, low, ranging camp lay before us, and from beneath its dingle the cheerful welcome of Jack English and Joe Stewart percolated.

Now our plan was to stock up at this lumber camp and hunt from Peabody, but on the second day it rained, harder than I have ever known. This resulted in a bad crust and the best we could do when we did get back to Peabody was to muse on the huge tracks on the far side of the lake where the moose had fed about the very day we had packed past it. Therefore we decided to hunt from the lumber camp, using the cleaned out portage which the tote team had kept open. This brought us well toward the head of the South Branch of the Sevogle which is not hunted at all. We had one day left for the team, held up by the storm one day, and another that I might have this last day—such is the generosity of Jack English—was to make the head of the settlements on the morrow. It had now turned cold and sharp, demanding ear-laps and great caution for the forest was still as death.

Of course still-hunting moose on the snow is a vast lengthy subject, but of merit and method unquestionable. It was now past the middle of November and all good hardwood ridges were fed over by moose and deer. We didn't bother must about deer as New Brunswick hunters seldom do; leaving them till the main game, moose and caribou, are down, or picking up a head met en route. With such a crust and a week to hunt we would not have left the portage along which we might have moved slowly for exercise, to rely on our eyes and ears. We would have left the ridges undisturbed for the simple reason that if the game is not molested it will, as a rule, seldom travel far in any single day and sometimes a week. On the other hand, if you travel back and forth across a good ridge with crust and a still day you will seldom get a shot as the game can hear you long before you see it, and that ridge will be worthless for at least another week. But leave such hunting till a soft or windy day, or better still another storm, and with any of a score of guides I know, it is, in New Brunswick, simply a matter of picking your head, at a range of less than a



EXAMINING A LUCIFER SET.



"CAMP 42." FROM WHICH THERE IS GRAND SHOOTING.

hundred yards. Had I been able to spend another week it was a moral certainty I could have pressed on an old settler.

The method of course is to select one or a series of ridges that can be hunted up wind, and to start just as soon as a breeze spring up, generally about eight o'clock. Then you travel till you strike "sign," which mayhap be a track, the bed of a day or night previous. Then comes the question, "Is it a cow or a bull?" and this you can quickly settle in less than a mile of traveling, by half a dozen signs, one of which is infallible. On the morning in question we went out ahead of the team and "started" three moose, but not in time to get a shot. Then we swung down toward the South Sevogle, across the most magnificent ridge I have ever seen, with the intention of returning to the tote road about two o'clock, circling it on the other side, and coming out to meet the team.

We had lunch by an old, long abandoned lumber camp, steeped in that exquisite romance which dominates the yonder country of New Brunswick, where the hand of man has tarried and past without impairing the restful solace of the true heart of the

woods. With but three hours at the most remaining of a thirty-day trip, and a moose license yet to fill, I was hardly conscious of any discontent, so all inspiring and sufficient seemed the mere fact I was there at all. I recall we had to chop through three inches of ice to get water, and then seek far and near for dry wood, but withall the sun streamed down and the sentinel hollow-butt pine swayed gently with the breeze of the gulch, while on every side stretched the tips of countless spruce spared because of their size. The tea was good and reassuring, and as we sliced the homely but precious plug Jack had given us, to puff serenely its first few whiffs, the question of rinsing the kettle and packing up was attended to in short order. Once more we swung into the ridge, this time to follow a cow track half a mile, and then in the order of things we came through that wondrous open ridge again, hit the portage, and took up the last turn on the far side.

By this time, however, the light was less reassuring. "Of course," we had said, up country, "nothing under sixty for us," and we knew this was reasonably sure of coming true, had the weather played us

35.20



LOOKING AT THE MINK SET.

fair. Now I think we would have taken a smaller head for the pride of our hunting was not to be gainsaid. I know such things were jaunting through my mind when I recalled that if I had any hunting vigilance left I had better forget to put my feet in Allen's tracks in the crust, and use my eyes.

At the time mayhap we had come half a mile from where we left the road. The country was not very open and we were not far from a swamp. When I did look up Allen was just turning to his left.

Now there is one thing above all else you must look for in still hunting moose on the snow, and that is something black. When that black is unquestionably high at one end it is reasonably sure of being the wither of a moose, which is unlike any other wither in this country. And just as I looked up there sure enough was the black wither of a bull moving, as game often, too often, is when sighted, noiselessly and cautiously, between two trees. "Hold on there," I said, for Allen was looking the other way and had not noticed it at all.

And true to the instinct of still hunting, the sense developed from practice and a good circulation—which hunt I ever so

often, can never be summoned when a bull is coming to the call—I was perfectly cool. Now instead of one bull there were three and they had been lying down till something, perhaps our crunching moccasins, had aroused them. And still they never made a sound and the whole thing was well nigh phantom-like.

"There are three, the further one has the best head, but it is not much over 40 inches, how about it?" muttered Allen—"all right!"

But I had noticed this, too, and it seemed the antlers were fairly well pointed. I don't think I was ever so casual in my life as that never-failing Marble Improved front sight came into alignment with the Lyman Receiver, and I pressed. Better still, as the muffled echo was lost in the further swail and the other two bulls moved off, I never budged from my steps as, instinctively, the one I had fired at tried to locate the sound. Then very slowly he moved between two other, more open trees and the second shot crumpled him up; and still I didn't run, but silently slipped in two fresh shells. I had chased and lost wounded game before this under just such circumstances and there was a little bet to settle with Allen to the effect I would not do it again. Then slowly we

approached, and as he tried to get up, I finished the work. The head was over 43 inches and we had it, with the two hind-quarters, at the road when the team hove in sight. The forest was full of hush when we pulled up in front of the camp that night. Below the brook moaned and gurgled beneath the ice, while above still another hollow-butt pine relaxed and was

motionless. From the west, like spilled claret, the wake of the sunset tarried turning to steel, great birches withstood, then cracked and were silent, while from beyond the ridge a great horned owl began to call. And then the chill entering into us we ducked beneath the dingle just as the tinkle of the last "yarder's" bell strayed in his van.

"Now Wouldn't That Jar You"

By PICK SMITH

SEVEREN disciples of the mighty nimrod had been camping some ten days on the so-called ranch of Teton Smith in Jackson Hole, Wyoming, and Doc, John and Jess, the only "old" hunters in the bunch, had each killed a bull elk, and had the head to show for it. Each of this trio likewise had lurking in his system an inordinate desire to get a crack at once of the bears Smith and his punchers alleged frequented that locality, and they were about ready to take an aged broncho donated by Smith up onto an adjacent mountain, convert him into bear-bait, and kill off the bears, when "French Pete," one of Smith's retainers, who had become quite chummy with Jess, told him on the quiet about seeing bear signs up a certain gulch the day before, and Jess, hankering for undivided glory, said nothing about it to Doc and John, but asked Bill, a modest and unambitious member of the party, to go bear hunting with him.

Now Bill had never killed any big game, but that didn't worry him a little bit; neither had he ever harbored the least desire to mix things with a bear; so when Jess invited him to go along, he went more to be a good fellow and to accommodate Jess than from any disposition to do harm to Bruin.

They saddled up, lied to the rest as to their intentions, and started—Jess for b'ar, Bill as company for Jess, and to be doing something.

The cayuse that Bill drew was surely no horse-show beauty. While he had a worm-eaten ear and a bad eye, his saddle and collar marks inspired confidence in his reliability.

They forded a creek near camp and took a trial along the foot of the mountains. At Jess' suggestion they soon urged their animals into a trot, but as that gait was something awful on Bill's mount, he touched him up a bit with a big knot on the end of his rope, when he broke into a gallop and went beautifully—for three jumps—when he began to aviate! During his antics Bill came near getting off several times, and never could tell why he didn't, as he never posed as a broncho-buster. After completing his bird-like maneuvers, the horse, without any suggestion from his rider, started on a little excursion of his own down the trail, and Bill said he had mighty little opportunity to view the scenery for about a mile or so straight ahead. After that Bill said a jog-trot was good enough for him.

When they came to the point where Pete told them to take to the mountains, they turned into the timber, going up the steep mountain side under and between big trees, over logs, around huge rocks, through dense thickets and snagging briars, till they finally reached the rim of a deep ravine, which they followed up and up, to where the timber get so thick as to compel them to leave their horses in a little "park" and continue their climb on foot. For a time the change

from horse to foot was quite agreeable to Bill, but that didn't last long, as he soon insisted that he would be willing to jar loose from double-fare if a trolley car should come along going his way. "It's a safe bet," said he, "that if I am ever found dead on the top of some high mountain, my shoe-soles will not show much wear from my getting there." He soon seated himself on a big log at the edge of the ravine, at the same time calling out to Jess, who was several rods further up, "I say, Jess, if those bears are fifty yards further up this gulch, I shall never see them, for I'm not going that far. You can have mine. I'll wait right here while you go and get 'em. Don't think much of bear hunting, anyhow."

"All right, ol' man," responded Jess; "I'll go up a little higher—won't be gone long, probably. Gee! but I'd like to get a bear! But wouldn't it just knock ol' Doc's eye out, though, if I should?"

Jess was soon out of sight and hearing, and Bill was all alone on that big, lonesome mountain. From his seat on the log, through an opening in the trees, he could see, some thirty-odd miles distant, the grand old Tetons, with their snow-capped peaks, some of them over 14,000 feet high—about the same altitude as Pike's Peak, but having Mr. Pike's mountain beaten to a stand-still in the show business. Somewhat nearer, and a little to the right, was another range, not quite so majestic and awe-inspiring as the Tetons, but wondrously beautiful, with their lemon-green of the pine, the fir and the spruce higher up, the bear, frowning rocks above timber line; all crowned with white, glistening snow. While Bill sat there on his log, admiring all this beauty and grandeur, with no thought of evil in his system, the almost uncanny solitude was suddenly broken by a most unearthly scream. In the tenth part of a second, Bill said, he thought of a locomotive, a mountain lion, a bobcat, a devil or two, and a good many other dangerous things; and he also wondered how far off Jess might be. But it was only one of those big mountain blue jays calling to his mate across the gulch, and when an answer came Mr. Jay flew from a branch of a tree a few feet above Bill's head, and went over to join his better-half.

Jolly little chipmunks said, "Howdy!" or

went "Shoo!" to the stranger on the log, and a host of frisky little pine-squirrels inspected him from safe positions up the near-by trees; and one little fellow who had approached nearer and nearer on each of several of his inspections was surely about to pull off some heroic stunt, when something happened to spoil his plans—and it will never be known what they were.

From his seat on the log on the rim of the gulch Bill had an uninterrupted view of the bottom, which when the snow was melting on the mountains was the bed of a rushing mountain torrent, but at this time was the resting-place for great quantities of various-sized water-worn boulders, partly burned logs, driftwood, growing berry bushes, grass and weeds. From the rim of the gulch at Bill's feet to its bottom was a "slide" of some kind, with clear sailing up and down.

While visiting with his squirrel friends, Bill said something, he didn't know just what, called his attention to the foot of the slide, some two hundred feet below, where—in plain view, and nosing about in the driftwood at the foot of some berry bushes—was a real, live bear!

As that bear stood there, with his left side toward him, still as a mouse, Bill said he did some rapid-fire thinking. At the same time he took deliberate aim with his gun at a supposed vital spot; then took the gun down again; then asked himself:

"Do I need a bear?"

"Has this bear ever harmed me?"

"If I shoot, and don't 'get' him, is he likely to 'get' me?"

"If I don't shoot, what will Jess, and Doc, and John say?"

The thought engendered by the last question was bad for the bear, for, coward as Bill admitted he was, he decided to chance being chewed and clawed up by the bear rather than being jeered at by the other fellows for not shooting. He knew mighty well that he couldn't let that bear go and keep from telling about it. Another thing that helped him to decide adversely to the bear was the handy-like location of what Doc had told him was the right kind of a tree to shin up if a bear took after him. After settling these little trifles to his satisfaction, Bill again aimed his gun at where he thought a bear's heart ought to be, and

fired. Bruin seemed somewhat startled, and made a grab for his side, much as a horse does when annoyed by a fly. As he seemed a bit slow about dying, Bill pumped another shell into his gun, then looked to see if his tree was still there, and had turned his attention bearward again, when, with a rush and a "woof!" up Bill's side of the gulch he came, and it seemed to Bill, so he said, that he was looking him right square in the eye. Something said to Bill, he said, "Hike!" and "Climb a tree!" and something else, "Hittim agin!" And as he had several shells still left in his gun, he decided to take another crack at him, at least. Mr. Bruin had come about a rod up the slide when Bill "drew a bead on him," as Jess would put it, and "cut loose," as Doc would phrase it, thinking of his tree all the time; but it was a waste of think, as the bear, at the crack of the gun, laid quietly down, and evinced no further disposition to do business with William; so there was no tree-climbing, nor fear of joshing for having done so. The bear was perfectly still. So was Bill. He was almost sure the bear was dead; if he wasn't he was willing to wait till he was. While he was waiting, he heard Jess holler. Just as Bill answered, Jess appeared on the rim of the gulch several hundred yards further up.

"Hi, Bill! That you shot?" yelled Jess.

"Yep," answered Bill.

"What at?"

"Bear."

"Where d'e go?" fairly screamed Jess.

"Oh, up the side of the gulch," returned Bill with little show of interest.

"Wait a minute," cried Jess, as he disappeared from sight, and while Bill was following his suggestion he heard him coming—preceded by small boulders and gravel—down the mountain side.

"Where is he?" asked Jess, greatly excited, when he arrived.

"Down there," yawned Bill, pointing down the slide.

"Why!" gasped Jess, greatly astonished; "You hit him!"

"I think I did."

"Is he dead?"

"Search me!"

"What your legs going wiggle-waggle,

like that for?" Jess then asked with a fiendish grin.

"They ain't! And don't you tell the other fellows they were!" indignantly denied Bill to the jealousy-prompted thrust.

"Well, old man," went on Jess, with another grin, "let's see how dead he is," and started down the slide, with Bill following. When he reached the bear, he poked him gingerly with the muzzle of his gun, then kicked him boldly, saying, "He's dead, all right. Where did you aim?"

"Heart—first shot; left eye, last one" answered Bill.

Jess examined the remains, then said, with another grin, "Oh, that ain't so worse," and showed Bill where he had punctured the unlucky brute—each shot next door to a bull's eye. Jess then produced a big knife, and soon had that bear skinned and some of the good-eating cut out. He then rolled the meat up in the hide, then began tracing the the course of the bullets through the carcass. The first, missed the heart less than an inch, and would, Jess said, have killed the animal before he could have climbed the slide.

"But I didn't know that," broke in Bill.

The second ball went clear through him lengthwise, hair, hide, meat, bones and blood, entering just above the left eye, and coming out a couple of inches to the left and a trifle below the root of the tail—and they haven't seen it since.

Jess ran a sporting-goods house and sold Bill his gun, and he took particular pains to impress on Bill's mind that that make of gun would shoot farther and straighter, and penetrate deeper, than any other gun on earth, and told him about shooting through a tree thirty-six inches in diameter with one of them, and said that the bullet then went so deep into another tree that he hadn't time to dig it out; and every time opportunity offered he looked to see where a bullet stopped.

After examining the bear's punctures, Jess laconically remarked, "I guess that gun of yours is all right."

"Anything the matter with its owner?" asked Bill.

"No; guess not," grinned Jess. "Guess he's all right, too."

Jess then shouldered the hide, when they climbed out of the gulch. When they ap-

proached the horses, Bill's brute began trying either to break his rope, pull up the tree he was hitched to, or yank his fool head off.

"He smells this bear," said Jess. "You go ahead, and after you get started I'll follow."

After considerable coaxing and many rash promises, Bill managed to mount, but how he ever got down to level earth without a big spill he was unable to say. "In the future," said he, "when navigating mountains, in going up I prefer to ride, and in going down to walk." On their way back to camp, they had covered nigh onto five miles before Bill's Pegasus would permit Jess' horse and his burden to come within smelling distance; and even after he had become less fearful, he indulged in frequent shies and snorts before camp was reached.

As Jess and Bill rode into camp, Dock was busy cutting off a few hunks of bull elk meat for supper, and as they stopped near up to him he remarked, 'Say, fellows, the more of this dad-blasted tough old bull meat I eat, the more I like it—nit!'

"Then eat bear, dang you!" roared Jess, as he lifted their 'bag' from the far side of his horse and cast it at Doc's feet.

When that batch of sports saw that black, shiny hide and the meat it enfolded, they one and all well nigh threw a fit, and all gathered around Jess, while Bill was unsaddling his pinto, and asked as one man, "Where in the dickens did you kill him?" And when he replied, "I didn't kill him, fellows," they asked in concert: "Then who in thunder did?" To this last interrogation Jess, with a sort of apologetic grin and a jerk of his head in Bill's direction, responded, "Old Lucky Boy, over there."

Then they wanted Bill to tell all about it, but he told them to wait till after supper; and when they quizzed Jess further about it, he said, "Nope, fellows! It's his story, not mine."

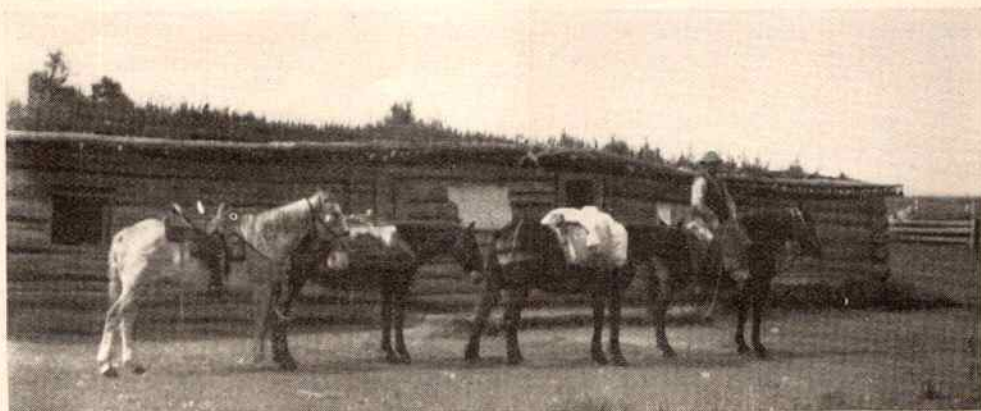
They ate bear liver for supper, and waited.

After the dishes was washed, with pipes loaded and lit, the bunch of mighty and near-mighty hunters sat a bit to windward of a roaring fire, when Doc, their perpetual master of ceremonies, grunted out, "Well, what about that bear, you lucky old devil?"

Then Bill told them all about it—all about his horse, his gaits and other peculiarities; the climb up the mountain side, the gulch, the chipmunks, the pine-squirrels, the beautiful mountain scenery, the blue jays and their sweet singing, the vari-colored foliage, the snow-capped peaks, something about prohibition and woman's rights, and, although frequently interrupted by cat-calls, cries of "rats!" "blast the blue jays!" "shoot the chipmunks!" never mind the scenery," and a lot of other unladylike remarks and expressions, before he even mentioned "bear," Bill neither hesitated nor stopped until they had the whole narrative, plus—with the exception, of course, that he didn't deem it necessary to say anything about a certain "right kind of tree."

After Bill had "run down," so to speak, some one asked to see the bullet-holes in the hide, and Jess went over to where it was to get it. While he was gone, Bill went into the tent to retire, and while he was undressing he heard low voices discussing some matter out by the light of the fire, and once he heard Jess exclaim: "Yes, honest Injun, fellows!" and, just before dropping off to sleep he heard, or after going to sleep he dreamed he heard, some one say, "Now, wouldn't that jar you?"





PACK TRAIN READY TO START FOR HOG PARK.

An Outing in Carbon, Wyoming

By ROY A. LOGAN

WITH ILLUSTRATIONS FROM PHOTOGRAPHS BY THE AUTHOR.

ABOUT eight o'clock in the morning my father and I loaded our guns and fishing tackle into the wagon and started for the headquarters of the Cosgriff Sheep Company on the head of Jack Creek. We stopped for lunch at noon on Sage Creek where we killed three young rabbits which we cooked and ate; and then started on over the barren rocky hills along a lonesome road and saw nothing of interest save a few antelope, until we reached Rim Springs late in the afternoon. There we sighted sage chicken and loading up our pump guns we got out and raised a bunch of eleven young chickens and a hen. We allowed the hen to fly off and killed the eleven chickens in about two minutes. Then gathered them up and put them in the wagon and started on our way again, only stopping occasionally when we sighted other chickens, and when we reached camp we had our limit of twenty-four fine young chickens.

While we were dressing our game the men at camp prepared a fine supper of sage chickens to which we did ample justice, and then, being tired from our trip of thirty-five miles, we soon turned into our beds.

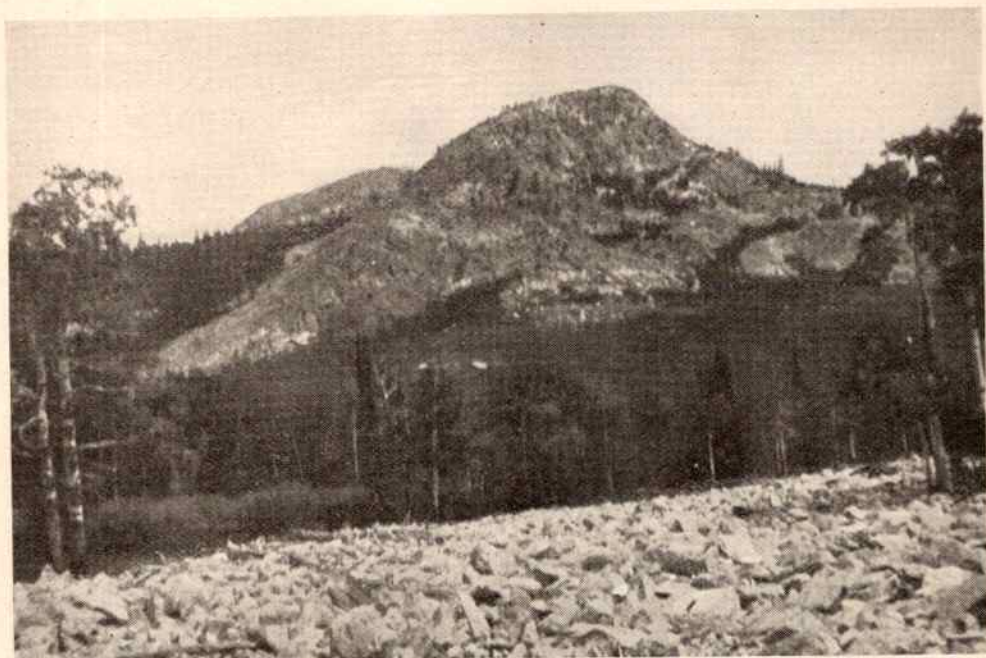
In the morning we went out for a few

more chickens and returned in about an hour with seventeen, having decided that we had all the chickens we wanted for a while. After dinner we took our poles and went over to Jack Creek where we caught thirty good trout. That night we decided to leave for Sand Stone the next morning, so arising bright and early we took a light wagon and started on the forty-mile drive up into the national forest reserve in the Sierra Madres mountains. We stopped for lunch in a meadow on Savery Creek, and while lunch was cooking, father walked around and picked twenty-one different kinds of flowers, of which there were thousands all through the meadows. The balance of the way was a very pleasant trip as we were getting into the timber and the road was lined upon both sides with tall pines and spruce with numerous mountain streams rushing down the canons. We had no sooner struck the edge of the forest reserve when we came upon a bunch of timber grouse and killed three with a .22 rifle.

We reached camp just before sundown and a pretty place it was, too. Located right in the heart of the forest on a large meadow through which flowed the Little Sand Stone, was a large log building surrounded by several smaller ones which were



THE AUTHOR AND A MORNING'S KILL.



BRIDGER PEAK FROM AN ELEVATION OF 10,000 FEET.

used as summer headquarters for the Cosgriff Company, whose sheep were ranging in the mountains not far from camp. That night we enjoyed our supper of fried grouse and finer meat I never tasted.

The next morning we rigged up our rods and went down the river fishing and returned in the afternoon with one hundred and fourteen trout, having caught exactly fifty-seven each. However, I came out ahead on the day as I killed a badger with my six-shooter, an officer's model Colt which I always carry with me on my trips. Next day we went across the mountain to Battle Creek, and got wet before we reached camp. The rainstorm which came up continued almost all night, and the weather turned quite cold so that some of the nearby peaks had a covering of snow by morning.

Having seen enough of this place, and hearing wonderful tales of the fishing in Hog Park, we decided to start for that place, so we soon packed our belongings and started out for the little mountain town of Encampment, famed for having the longest aerial tramway in the world, fourteen miles long. The supplies for the sheep

camp have to be taken on pack horses, but we chose the road which goes down along the mountain side past the old deserted mining towns of Copperton, Rambler and Battle. Near the last named is the famous Battle Lake where we found several fishermen camped, but I am sorry I did not get a picture of these interesting places.

We reached Encampment without event and the next morning started for Hog Park, the road to which is certainly the roughest and worst kept road that I ever traveled. When you aren't going up the mountain you are coming down. The road leads through dense forest almost all the way except where some forest fire has laid the mountain side bare. We reached Hog Park about sundown after a continuous descent of three miles, and came upon the prettiest valley I have ever seen. The Park is about a mile wide and probably three miles long, walled in on all sides by towering mountains covered with timber from the very foot. Nevertheless, for all the beauty of the surroundings I did not enjoy my first night there, as we had to spread our bedding on the ground under the trees without other canopy, and I can assure you that the

nights are real cool, especially with a drizzling rain falling in one's face. We slept but little and were up bright and early ready to fish; and about eight o'clock we started for Encampment Creek close by. We fished downstream, wading over the round slippery rocks, as there was not room to fish from the banks. The river there runs through a deep canon, and many a good fall and ducking we received from slipping on the rocks. But we were amply repaid, finding trout everywhere, and all of them striking viciously at our flies at almost every cast. We soon had our creels full to overflowing with the beautiful salmon trout, and not until then did we turn our faces toward camp, which we reached in a short time by going over the mountain. We then counted our fish and found that

we had one hundred and twenty-three, father having sixty-three and I sixty. I photographed the catch, and after dressing them we packed them in wet grass and next morning started on a flying trip home.

We arrived in Encampment that afternoon where we secured a large piece of ice to put over the fish. Next day we drove into the camp on Jack Creek and then the day after left for Fort Steele, where we arrived without mishap after killing twenty-three sage chickens on the way.

We unpacked our trout and found that they were in excellent shape. I took a goodly number of trout and chickens and going back to my home in Rawlins on the evening train fulfilled my promises of fish and chickens to my friends.

Changing Dogs in the Express Car

By ISAAC MOTES

WHEN the through El Paso Express reached Fort Worth there was put into my car a crate containing a young thoroughbred Russian greyhound. It was tagged for a Colonel Bolger, a big stockman of Pecos, Texas, and came from a dog breeder in Kentucky whose kennels are celebrated from one end of the country to the other. The agent at Fort Worth remarked that the owner would probably be at Pecos when we got there, to receive his dog, as he would be notified by wire when the train pulled out for the west. I knew Colonel Bolger by reputation as a big cattleman, a lover of dogs and a great wolf hunter.

I was impressed at once with the fine appearance of the young hound. It was of the regulation height and build, but it required only a glance to assure me that it was no ordinary greyhound. Its hair was soft and fine as silk, and its hide fresh and smooth as though just out of a tub of warm soap-suds. It was a friendly dog, and at once manifested a desire to get acquainted with me. It stood up in its crate and looked at me so intelligently that I felt a strange admiration for it from the first. It bore the tedium of its long journey like the

thoroughbred it was, and seemed lively and fresh, despite its thousand-mile jaunt.

For the first hundred miles out of Fort Worth I was too busy to give much attention to the dog, but as we got further out on the plains where the towns were smaller and far apart my work slackened, and I had time to be friendly with it. Its eyes were the most intelligent of any dumb creature I ever saw. It seemed to me there was almost a sadness in them, too, as though it would talk, could all but do so, and was sad because it could not. The door of its crate was fastened by a staple and hasp, with a large wire nail through the staple outside the hasp to keep it closed, instead of a padlock. I unfastened and opened the door a little way, and put my hand in and played with the young hound, and it was as gentle and friendly as though it had known me all its life.

It seemed so easily managed that after I passed Midland I let it out of the crate, slipping some bars across the door of the car to guard against its getting out, though from its docile manner I didn't think there was any danger of this. When we approached a town where I had to put off and take on

express matter I led it into the crate again and fastened the door, in order that I might slide back the bars and handle the express matter to better advantage. Then after passing the town I again let it out and allowed it to play around the car.

After getting further out on the plains where there was very little express matter to receive and deliver I allowed the hound to stay out even when we stopped at the towns, keeping the bars across the door and lifting a few packages over them. It seemed so gentle and obedient that for hours at a time I paid little attention to it, knowing it was lying down somewhere, or standing in some out-of-the-way place, watching me out of its bright, intelligent eyes.

At the little station of Pyote, far out towards El Paso, I came to grief from allowing the hound his liberty. We reached this station at five o'clock in the afternoon, some forty minutes late, and the train slowed up only a half minute. There were no packages to put off or take on here. The hound was out of its crate, standing near the barred door, alternately watching me and looking through the bars as we pulled out of the station. I stood at the door, looking out across the plains and at the little adobe houses in the edge of town as we reached its outskirts.

We had gotten about three hundred yards from the station, and beyond the last house when a jack rabbit jumped out of the grass in the right-of-way and went bounding off onto the plains, somewhat alongside our train. I was watching it, leaning against the bars across the door, when quick as a flash the hound cleared the top bar, landed in the sand beside the track, and stretched out across the plains after the jack rabbit like a streak of lightning. They ran somewhat in the direction our train was going, but gradually bore away to the left. The last I saw of them was a little cloud of gray dust in the dim distance, the hound in sight at the rear edge, and the rabbit at the front edge, visible only at the apex of its leaps. Then I lost sight of them completely.

What was I to do? The thoroughbred was gone through my carelessness, and we were nearing the place where it was to have been put off, and where its owner was waiting for it. I knew the dog must be valued

at a good sum, and I knew the express company's rule to make its messengers pay for everything lost, so I felt pretty blue as the dog disappeared in the cloud of dust.

The country between Pyote and Quito, the next station, was a gray barren stretch of sand and stunted mesquite bushes, and as I had nothing to do I found myself standing at the door wistfully looking out at the bleak plains as though I expected to see the greyhound still chasing the jack rabbit.

At first I was angry at the hound for taking advantage of my kindness and giving me the slip, feeling that a well bred dog should not have been guilty of such ingratitude, and after all it must have a strain of mongrel blood in its veins. But I soon came to see that I alone was to blame for the hound's getting away, that I had allowed it too much liberty, and that it had only followed its natural instincts in chasing the jack rabbit. It had done a rashly brave thing—creditable to its grit if not to its judgment.

At Quito we stopped about a minute to let off passengers. The train was long, and my car, second from the engine, was drawn considerably past the station building. There were only one or two packages to put on and off, and these were soon attended to, and I was again at leisure. As I stood at the door worrying about the lost greyhound, by attention was called to several little ragged boys playing near my car. As we drew up they ceased playing and stood watching the train. Several lean hounds of various sizes and colors stood among the boys. Suddenly an idea struck me, and I called to the boy nearest me, a little bare-headed fellow who had his hand on the head of a mongrel looking hound: "Say, boy, is that your hound?"

"Yes, sir," he said, proud to have a member of the train crew address him there in the midst of his play fellows.

"Give you a half dollar for him," I said, holding up the coin.

I had scant hope that the boy would consider my offer, but quick as a flash he said, "All right," and pulled the hound toward me by the scruff of its neck.

"Throw him in quick!" I shouted, as the train bell clanged. The boy swung the hound into the car. I tossed him the coin and grabbed the hound, chucked him into

the crate, flapped the door down and fastened it with the nail. It happened so quickly that almost before I realized what I had done I had the dog in the crate and the train was in motion. I now felt a little better. I had a dog if not the dog, though knowing Col. Bolger as I did I hated to palm the wrong dog off on him in this manner.

I got the few packages entered in my book and then took a closer look at my new dog. He was certainly anything but a greyhound. He was yellow, lank, hungry, lop-eared and flea-bitten. Every square inch of him, from the tip of his tail to his nose proclaimed him a mongrel. Had I raked West Texas with a fine tooth comb I couldn't have found a more worthless looking canine. But there he was in the crate, not with the fine, superior appearance of its recent occupant, but with the air of the stray, as if all the time expecting a kick or a cuff.

The more I looked at the cur the more my heart revolted at the thoughts of practicing this imposition upon Col. Bolger, and the more I felt like putting it out of the car and making a clean breast of the affair to my Superintendent on the return trip. But I knew I would have to pay quite a sum for the lost thoroughbred, all on account of my kindness to it, so in the confused state of my feelings I couldn't decide on a course that satisfied my conscience and protected my pocketbook at the same time.

We reached Bristow, the last station east of Pecos, only six or seven miles distance. This was a mere straggling village, and we should not have stopped here more than a half minute, but something got wrong with the locomotive, which delayed us several minutes, the engineer and fireman, wrenches and oil cans in hand, working around the engine with feverish haste, as every minute's delay in getting to El Paso with the United States mail cost the railroad company a snug sum of money. In perhaps four minutes they got the locomotive fixed, swung into their cab, the conductor shouted "All aboard!" the bell clanged and the wheels moved.

I had attended to the few express packages, and was standing at the door looking out across the plains as was my habit since leaving Pyote. As the train started I heard a sudden shout out to the left of the track,

and the next instant I was thunderstruck to see the Russian greyhound leap into the car, drop a jack rabbit at my feet and look up into my face, wagging its tail as though not sure whether it would receive a scolding or not. Then it started towards its crate, but stopped in surprise at sight of the hound inside.

My feeling of relief, mingled with surprise was so great that for a moment I doubted the evidence of my sight. Then as I realized the distance the hound had run, certainly not less than fifteen miles, and its wonderful intelligence in overtaking the train and coming back into the car with the rabbit, I gave it a squeeze that must have well nigh crushed its bones. Then I opened the crate door, and giving the crate a shake made the cur get out, and pushed it through the door of the now rapidly moving train. With the intelligence almost of a human being the thoroughbred walked into the crate, turned round, sniffed at the slats and came out again. It didn't seem quite so fresh as before its race, but it had the true grit of the thoroughbred, for it wouldn't lie down, but walked around the car, looking at me wistfully as though it was tired, and wanted sympathy.

I hastily put up the bars across the door, and gave the remainder of my time until we reached Pecos to rubbing the hound's sleek coat, trying to show it that I was not angry at it.

From Pyote to Bristow the railroad track made a long, gradual curve to the left, so when the greyhound caught the rabbit the smoke of the engine must have been still in sight, and as a greyhound runs by sight it had followed the smoke of the locomotive for miles, and overtook us during the lucky four-minute stop at Bristow.

As our train rolled into Pecos station I gently led the hound into the crate, closed and fastened the door, and a moment afterwards, giving it a good-by pat, I lifted the crate carefully out onto a truck as Col. Bolger, a big man wearing a white slouch hat, shouldered his way through the crowd to see his dog. Apparently he was well pleased with his purchase, and rightfully so, but he doesn't know to this day how near he came to losing his blooded hound and getting in its place a common Texas mongrel.



A Summer on Northern Wisconsin Lakes

By JOHN H. MILLER, M. D.

WITH ILLUSTRATIONS FROM PHOTOGRAPHS BY THE AUTHOR.

THIS story concerns a Professor, a near-Professor and a Medical man. This combination was synergetic. The Professor, a teacher of chemistry, said so, and he knows. The time was a summer vacation, and the place, the upper Eagle chain of lakes, near Three Lakes, Wisconsin. When the days grew long and the sun hot, these three congenial souls migrated to the land of cool nights and balmy days, where the fishing is good and the boating an endless pleasure, provided one is on speaking terms with his engine. This trio, either by themselves or under the watchful care of their better halves, would often go on an excursion for the day to some distant part of the chain of fifteen lakes, where a feast would be spread under the broad branches of a friendly hemlock, and served to appetites that only waited the bidding.

On one occasion when the trio were going it alone, it fell to the lot of the Professor to make the coffee while the near-Professor cleaned some fish for dinner. Thinking that the Medical man had prepared the brew, he suspended the vessel over a fire and proceeded to boil the contents. When the lid was removed we found the following mixture that the Chemist had brewed: One salt shaker, one can of pepper, a jar of cream, some sugar, a piece of good Wisconsin cheese in liquid form and some ground coffee. (No objection to the use of this formula for making coffee, but not recommended.)

A box of fish had been promised the hospital back home and to this end the trio labored. As the fish were running small and not easily coaxed to bite, when and

where to fish became a problem. We learned that the dam on Eagle River was open and this meant good fishing below. We pirated the title to the milkmen's national ode and said to each other, "Shall we gather at the river." We gathered and in the swirl of waters amid the foam and currents, both forward and reverse, we found some nice wall-eyed pike awaiting our offerings. To fish here it was necessary to cast, and this was where the Medical man was outclassed, but not discouraged. We sought advice from the near-Professor, who is authority on fishing, and one of the best fellows we ever roughed it with. With many casts, far short of the intended mark, many back lashes, unwinding and rewinding of tangled line, the knack finally came. As with all beginners, it took some time to learn that no brute strength but dexterity had most to do with success. On one occasion, a perfectly good frog was thrown all the way across Eagle river and no doubt has long since joined its mates "on the other side." The fish were caught and the patients at the hospital had occasion to taste some of the real article—not the store variety of uncertain vintage, but fish from the cold spring waters of northern Wisconsin lakes. We desire right here to disclaim any imputation that we are "fish hogs," for we are not. We never fished except to supply our tables or give a little treat to some friend who had been unable to go for an outing. We once knew a party who fished and fished with only the selfish motive of greed in view and to see if he might outstrip all other fishermen in the size of his catch. Originally he had been cut out for a deacon but in some



"WE PROUDLY CHRISTENED HER THE CORA-JANE."

way the devil must have queered the pattern.

Some of my friends have jokingly asked me how much my string cost me. Suffice it to say that the Professor, the near-Professor and the Medical man caught each and every one of them. They were all of legal length and lawful weight. As to the exact number caught by the author depopulated saith not and furthermore it would be a breach of ethics for any one to cross-question the court. If our string appears a little large to you, we beg your indulgence and like the old darkey who preached a whole sermon in two little lines when he asked the Lord to bless the Christmas dance, we say to you:

"'Member Lord, de sinfulness ob sin,

'Pends upon de sperit dat we goes and does it in."

One day the Professor caught a large pike with a hook in its mouth and several inches of line attached, which goes to prove that the finny tribe is almost as easily duped as the human race. A dozen sea gulls dropped in on Planting Ground Lake and spent day, then disappeared. Whither they came or whither they went, we never knew, but they are unusual visitors so far inland.

While passing through Townline Creek one day, we came up with a lady rowing a boat with one oar. She explained that she had been unable to make her "coffee grinder" engine go and as her destination was Muskellonge Bay or Long Lake, some miles away, we towed her home. Here we found her husband, a Rhinelander druggist, with a badly cut foot. The name of their camp was Mossy Cove. The lady explained that Mossy Dell would have suited better but they had been unable to find a dell. They showed us their camp stove, which for convenience and service might well be described here: Two logs about ten inches in diameter and four feet long had been wrapped with sheet asbestos and over this a roll of sheet iron. These had been placed two feet apart with a few light iron cross pieces fastened to each, and a sheet of iron closed the rear with a small piece of iron across the upper front to make it draw well. For the top a piece of sheet metal was used with a thimble for a stove pipe at the rear and two joints of stove pipe for a chimney. A small sheet iron oven completed the outfit.

The study of animals and birds in the wild is always interesting. We had been located by a few days when a little red

squirrel came to make our acquaintance. Food placed in a convenient place always disappeared, but when we encroached too near to what he considered his reservation, we would come in for a scolding delivered from a safe distance. The saucy chipmunk was a suppliant at our kitchen door for crumbs and other bits from our table. He was the victim of an early morning appetite at the expense of our rest, as he often awakened us at unreasonable hours by climbing on the screen door nearest where the eatables were kept. A lumber jack, a bird much resembling the blue jay, came to share our bounty and became very tame. Porcupines had gnawed our wood box and left some unsightly carvings, but had discreetly disappeared on our advent.

Wild cats were occasionally heard in the woods back of our cottages, but we were never able to see one. One of these and a skunk, evidently not members of the same church or lodge, met one night in front of the near-Professor's front door, and proceeded to settle, not only their local, but all their international troubles as well. Fur was shed and blood spilled, while pandemonium and odor filled the air. Fortunately the near-Professor, a man of much wisdom already, had built his cottage with a rear door, and this arrangement he found very convenient for the next few days. He explained to me that there was more odor than a thousand men could smell and he is a man of some judgment.

To have everything go along according to a fixed schedule would make any outing monotonous. It is the little breaks that give occasion for the laugh afterward. A member of our colony, a merchant from Illinois, was sunning himself on the dock one chilly morning, wondering what the wild waves were about to say, when by some mischance he rolled off into the lake. Now this man is not so altitudinous, but markedly longitudinal, and the splash he made when he went under furnished fun for the crowd the rest of the day.

Not so many years ago, this region was wholly in possession of the Indians. Some of their trails exist yet. Over at Pine Point on the western shore of Planting Ground Lake, some of the pine trees show evidence of having been burned to obtain pitch for mending canoes. Over the top of

a high hill here an old trail is yet visible and from the top of this hill, a beautiful view of Columbus and Thunder Lakes to the west may be had. A great many visitors to this region bring their Indian canoes and many follow the chain of lakes down to Eagle River where they take to the Wisconsin River and by making a few portages, can travel by water to the Mississippi. The writer has never tried this way of getting about, inasmuch as he tips the scales at something more than two hundred and fifty pounds, and is about as graceful in the matter of handling a boat as would be a hippopotamus, and, beside, his friends have advised that the center of gravity in his case is much too high for safety in riding a canoe. A motor boat with a five-foot beam has, so far, been plenty small for our requirements and the amount of trouble we have had with ours, the remarks, audible and inaudible, when the engine was balking, would fill a respectable volume and make the vocabulary of the late lamented George Fitch on motor boats seem limited indeed. When we first launched our boat we proudly christened her the Cora-Jane, and felt badly because we did not have an expensive bottle of champagne to break on the bow as she proudly slid from her moorings. After wrestling with the engine and blistering our hands cranking we have concluded that a nickle bottle of beer would be quite sufficient, and that we might with propriety, change the name to Crazy-Jane.

So far nothing has been said about bears. Timorous ladies, contemplating a summer outing, have often asked about these "varmints" and have been informed that, relatively speaking, they are about as plentiful in this region as ice houses are supposed to be in his Satanic Majesty's realm, if we are to believe all we hear. Recent events compel a revision of this statement. Out at Butternut Lake, twenty miles east of Three Lakes lives one Shorty Fournier, a prince among good fellows and a practical joker. Shorty is a thirty-third degree optimist and has more fun while passing along the highway of time than two ordinary men. He can make his friends see the doughnut without seeing the hole in it, a gracious gift because Shorty keeps a summer resort.

Along in August, two gentlemen, city



"THE PATIENTS AT THE HOSPITAL HAD BEEN PROMISED SOME FISH."

bred and well groomed, presented themselves at Shorty's place to enjoy an outing. They immediately began asking questions as to hunting, amount and kind of game in the neighboring wilds, etc. Here was Shorty's chance for a little fun. He assured them in all seriousness that deer were as common as rabbits, and as for bear, one need only go out and sit on a log until they began to pass by, when he could bag what he wanted. He loaned them a "cannon" and furnished a guide and they went out some distance from the camp and took up a position of watchful waiting, while Shorty, back at the resort, was laughing to himself over the hugeness of the joke. By and by a black bear came along, nosing in the leaves in search of ants. The hunters brought their artillery into action and whether by accident or design, or whether the bear just got his head in the way will never be known, but of one thing he can be assured, like Asa of old, he sleeps with his fathers.

When the hunters dragged the two hundred pound carcass into camp it would be hard to say which was the most surprised, Shorty or the hunters of the bear. After snap shots of the hunter and their trophy had been taken, the hunters and their guide

went fishing. Shorty admitted that the hunters up to this time had succeeded in gumming the cards for him but he was determined that they should not stop the game. While they were out on the lake, he disguised one of his boarders and pinned a game warden's star on him. The pseudo game warden met the hunters on their return and informed them that he had been advised that some one had killed a bear. No one knew anything about a bear. He then arrested the whole crowd, including Shorty. He demanded each to show his license. Each had a fishing license but no one had a hunter's license. While they were discussing the matter, the guide slipped down to the lake and turned all their fish loose, fearing that some of them might not be of legal size and that another fine might be assessed. The hunters begged Shorty to advise them what to do. He gravely informed them that the only way out of it was to go before the judge at the county seat fifty miles away, and throw themselves on the mercy of the court. They all got into an automobile and after driving five miles in the country the game warden requested to be shown where the bear had been killed. Shorty agreed to show him the spot and took the warden

some distance in the woods, then returned to the auto alone, and said: "Boys, go while the going is good; get for the tall timber and hide," which they did with alacrity. Shorty then took the warden into the auto and drove for home. Along in the wee sma' hours of the morning two hunters and a guide cautiously slipped into camp. At the breakfast table the game warden, whom the hunters had not yet recognized as a fellow boarder, said: "Boys, if you will each put up fifty dollars I'll never tell this on you." The culprits felt like falling on each other's necks and weeping for joy

over their deliverance, and no doubt there would have been much celebrating but for the fact that the nearest life saving station was fifty miles away.

After a time when the leaves on the maples along the lake turned to a brilliant red and the sun was well on its journey to the south, we packed our duffle and prepared to return, each to his task, for we are not of the class of the idle rich, and work we must, for it is a foregone conclusion that if our wives are to wear seal skin sacques this winter they won't be able to do it on a muskrat income.

Bringing in the Deer Alone

By B. H. EVANS

After the sharp crack of your rifle has died away in the silent woods, and the coveted deer lies dead at your feet, perhaps you may find yourself alone with your game. You may have strayed off from camp, hunting on foot, and the day may be too far spent for you to seek help from fellow hunters and return to camp with your quarry before night. Or, mayhap, you have come to the woods entirely alone. How are you to get the deer home or to camp? To sling it on your shoulder and carry it far would indeed prove burdensome, if not impossible. The weight would not remain balanced, but would slide back and forth, soon wearing out your endurance and soiling your clothes with blood.

Try this simple trick to aid you. If you have ordinary strength it will enable you to carry a large deer comfortably and without damage to your clothing.

First, disembowel the animal through a slit made from crotch to tip of breastbone; then drain the carcass. Next, run your knife down the back of each leg from foot to knee-joint. Peel and take out the bones along which the skin has been split. Tie the skin of right hind leg to right front leg, and that of left hind leg to right front leg. This makes an X across the deer's stomach. Through the X slip your arms while laying down at right angles to the deer, and with the back of your shoulders against its body. On rising you will find the deer fitting com-

fortably to your back and its weight evenly distributed on your shoulders. The exertion of getting to your feet may be lessened by placing the deer on a log, stump or hillside before attaching yourself to it.



THE DEER IN PLACE.



A Squirrel Hunt in Georgia

By R. B. HILL

I HAD been closely confined to business for several years, and was feeling so badly pulled down that I consulted a physician.

"You need a change of air and scene and a rest from business cares," he said decidedly, "and the sooner you take it the better."

"But, Doctor, the fall is an unfortunate time for a holiday. Can't you tide me over until next summer?"

"No, sir; can't be done. The fall may be an unfortunate time for a holiday, but it is unfortunate for a young fellow like you to die at any season. You start for the country within the next three days, and remain there, out of doors, for several weeks." And the brusque but kind-hearted old gentleman took his leave.

As he went out, I took from a pigeon-hole in my desk the last letter I had received from Gus Murray and read it again. In my last to him I had told him I was not feeling as well as might be, and a few days later his answer came—an answer characteristic of the Gus of old:

"Come right along," he wrote, "and I promise to return you with a firmer hold on life. I'll take you over all our old stamping-ground, and when you go back, your 'youth will be renewed like the eagle's,' making you fit once more for your treadmill existence. Game is abundant. For three years past I have posted my place, and you will be amazed at the increase, particularly in the number of squirrels. Of course you remember Collier 'Hammock,' where we went one morning during our boyhood, and saw so many squirrels we didn't know which one to shoot—the time your gun became unmanageable and kicked you on the nose—and the only execution you did was to shoot off a portion of a squirrel's tail? Well, I do believe there are more of the little rascals now than then. And if you

will come and bring your breech-loader, I think we can go out any morning before breakfast and kill all we care to lug home. Acorns, hickory nuts, black-gum berries, haws, etc., are as abundant as game, and the latter is in good condition. Quail are plentiful, and if you grow weary of slaughtering the little bushy-tails, you can turn your attention to 'Bob White.' Come right along, prepared to stay at least a month. Mother says she will allow you to occupy the bridal-chamber, as you are a semi-invalid, in spite of your want of appreciation all these years."

Replacing this kind letter in the envelope, and knowing I would be most welcome, I wrote Gus, accepting his invitation, and requesting him to meet me at the station two days later.

As I stepped from the train to the platform, Gus gripped my hand with all the old heartiness, and bade me welcome.

"You do look rather puny, old man," he said. "We'll give you some old-fashioned country fare—hoe-cake, corn-pone, potato-pone, johnny-cake, beaten biscuit, butter, sweet milk, butter milk, collard-greens and bacon, chicken and eggs; and I reckon it's cool enough for spare-ribs, backbone and sausage. Then, when you have 'picked up' some, we'll go hunting. Mother has sage-tea and other household remedies ready for you, but I hope you won't need them."

I didn't, though none the less obliged to motherly Mrs. Murray, and after two days informed Gus that I was fit to walk his legs off.

"All right," he responded; "we'll open the ball with Collier's 'Hammock' in the morning. We'd better get to bed pretty early; be up betimes, take a cup of cocee, and be on the ground before sunrise."

When Gus knocked on my door next morning I could scarcely believe I had been asleep eight hours. Springing out of bed,

I dressed by lamplight, went downstairs and found him waiting for me.

"Well," I remarked, as I put down my coffee cup, "if my nerves are not steady this morning it won't be because that coffee was not strong enough to make them so."

After a brisk walk of fifteen minutes we reached the "Hammock" and took our places several hundred yards apart.

It was an ideal morning—clear, still and frosty. Seating myself at the foot of a water-oak I leaned back against the trunk with my gun across my lap. Not a hundred yards away in the gray light of the morning I could see the very tree under which I had stood that morning long ago, when I rested my single-barreled muzzle-loader on my shoulder-blade and fired at a squirrel almost directly over my head, as he jumped from one tree into another, the result being that the over-charged gun in its awkward position kicked me quite severely, jumped from my grasp, and falling, struck me on the nose.

My light overcoat was about my shoulders, and I dozed. The intervening years, with their disappointments and vanished hopes, seemed blotted out, and again I was a happy lad and held in my hands the brimming goblet of anticipation. I must have slept ten or fifteen minutes, and was suddenly awakened by the rustling of leaves above me. Glancing up I saw a squirrel leaping from the boughs of the tree against which I had leaned, into those of another. As he paused a moment after the leap to recover himself, I fired and dropped him. Before the smoke had cleared away another little fellow ran out on the limb of the same tree, looked down at me with big, wide-open eyes, and curling his tail above his back, "barked" at me derisively. He met a similar fate to the first. These two I killed as I lay back against the tree. And now the woods seemed alive with them—darting over the ground, springing from branch to branch, running up and down the tree-trunks, and chattering like creatures possessed.

Rising to a sitting posture, I turned to the left and dropped one with each barrel. Then standing up I killed four more almost without moving from my tracks. Truly, Gus had not exaggerated; never, even in the old days, had I seen more squirrels.

After killing as many more, my bag became too heavy to carry, and taking it off, I fired right, left and front. Thus far I had shot only young ones, barely grown, but presently I saw an old fellow dodging around the body of a tree. I approached within shot and stood still a few moments. At last his head was stuck cautiously around, but before I could press the trigger he withdrew it. I picked up a piece of broken limb and threw it beyond him. I could hear the sound of his claws as he scaled upward, but not a glimpse of himself did I obtain. Several times I attempted to slip around to his side, but he kept the body of the tree between us. Then I tried shaking a bush and also rubbing a limb against the bark of the tree, but with no better success. Finally I noticed a vine growing up an adjoining tree, a portion of which extended into the tree occupied by the wary old squirrel. I pulled on this vigorously, it responded, and his squirrelship moved and moved quickly. In a moment he was at the tip of a limb and gathered for a spring. He made it, and a longer on I had never seen. The tip of the opposite branches quivered and swayed as he caught; I waited a moment, and ere he could continue his flight brought him down.

I had lost time enough with this wily old chap to have killed a half-dozen of the last generation, but I soon made up for lost time. In fact, at the end of an hour I had bagged thirty-two.

All this time, Gus had been popping away industriously, and in answer to my call came up with a full bag. A count of its contents proved that I was three ahead, but I had had the start of him.

We turned our faces homeward, and within the next hour had done justice to a hearty breakfast.

"This morning's work beats old times a little, don't you think, Alfred?" asked my friend.

"Well, rather," I replied. "The best I ever did as a boy, with an old muzzle-loader, was eight one morning before breakfast."

After breakfast, in looking over the pile of squirrels, we paused at the old fellow who had given me so much trouble. Examination showed him to be an old veteran, large, tough and battle-scarred. His nose

and ears bore traces of many a conflict, and a portion of his tail was gone. Gus looked up, our eyes met, and he said half-seriously:

"I declare, Al, I do believe this is the very old stager you shot that time I referred to in my letter, when you got that scar on the side of your nose."

"Nonsense," I answered; "that was twenty years ago. Who ever heard of a squirrel living that long?"

But for all that, I kept the brush and carried it home with me.

When Dilsey, the cook, saw the ancient

squirrel, she exclaimed with emphasis:

"Good Lawd! It'll tek fo' hours to parbile dat squirrel so he'll be tender enough to eat. Dat's a reg'lar Methusahlum!"

"I feel small compunction in regard to this massacre," remarked Gus, "because of the fact that these small rogues just about ruined several acres of corn for me. In my field adjoining the 'Hammock' they scarcely left an ear within thirty feet of the fence."

My friend's prediction proved true, and when I returned to my desk at the end of two weeks I felt like a new man. Try it, you fellows with run-down machinery.

Quieting the Fever

By R. L. JOHNSON

ABOUT the first of last September one evening, I called up the professor and asked him how his case of fever was progressing, and whether he did not think that a couple of days over on the stream after bass would help him both physically and mentally. It is useless to say that he did not need a second invitation. So the next morning found me on my way with my favorite fly and casting rods, waders, creel, two reels and lines, one enameled and the other for casting. Also my fly book, and five or six small kidney shaped spoons with four or five kinds of flies to attach as the day may require. These, after several years of experience, have become my favorite lure for small mouth bass in this part of the country.

After about an hour's ride, I came to a station where I was to meet the professor, and from there we were to take a trolley line to the stream. As the car pulled into the station I looked out of the window, and everything seemed to be covered with smiles, but upon closer examination I found it was only a fisherman's smile upon the face of the professor. After a hearty hand shake, I asked him how long we would have to wait for the next car, and he broke the news to me as gently as he could, that

it would only be an hour and a half, as a car had just left.

At last, after waiting for what seemed to be a week, that long looked for car came, and we were on our way to the river. Now it is strange how things go wrong sometimes, and when they once get started to going, everything seems to have to go the same way. Just before we arrived at the station we had to pass over the river, and upon looking down into the valley below us, we saw as dirty and muddy a stream as was ever seen outside the lower Mississippi or the Missouri Rivers. Since there were no other fishing grounds ahead within a reasonable distance, there was nothing to do except to stop; at least until the next car would take us back. Somehow, the idea of going back and giving it up as a bad job was entirely out of the question. I think professor had been catching bass all the night before, and as I had not had a day with a rod for quite a while, we both had about as bad a case of the fisheritis as a man ever gets. There was nothing that could cure that feeling except to set a hook firmly into the mouth of at least a few of those bass.

Now it is said that it takes a lazy man to be a genius, and at times it may be so. But

take it from me that he will have to get up in the morning to keep pace with a real fisherman, whether it be that he wants to find an excuse to offer to his wife in order to get away for a day or so, or in getting around the difficulties that may stand between him and that fish which he is after. As luck would have it, the professor had been watching, from his home the evening before, the storm which had so upset our plans. And right here along this line is where we got our heads together, and very soon we were able to smell fish once more. The storm which had passed was a local thunder storm common at that time of the year, and had traveled from west-southwest to east-northeast. As the stream extends north and south, we concluded that we would still get our game if we could go a few miles up the stream. After an hour's search we succeeded in finding a fellow who would take us up the river, and were then soon on our way. About three o'clock in the afternoon we reached our destination, and much to our satisfaction found the stream at this point to be in fine condition.

Upon arriving at our final destination, we soon had on our waders, rods together, and were ready for the fray. The professor is an ardent fly fisherman (or at least was then), and with him they must take fly or nothing. I decided to let him test out the fly while I worked the spoon, and with the aid of a heavy cord, I put my fly rod on my back, and started out with my casting rod. Before us lay a beautiful clear pool about one hundred and fifty feet in width, and thrice that in length, with a rough stony bottom. On the opposite side, with scarcely room enough for a person to pass conveniently at the water's edge, arose a steep shale bank for about seventy-five feet, while on our side were several large sycamores and two large maples that cast their shade over a large portion of the pool.

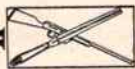
I started to casting at the upper part of the pool and the professor at the lower end. I had made but a few casts, when on reeling in I saw a bass twelve or thirteen inches in length following about two feet behind my bait. As I only had four or five feet of line out at this time, I slowed up a little, hoping that he would take it, but as I did so he slackened his pace too. When I raised my hook from the water he saw

me for the last time, unless it is my good fortune to meet him next summer. I worked across the stream at the upper end of the pool, and down the opposite side, and caught only one small one, which I returned to the water unhurt.

In the meanwhile the professor was working up stream on the other side. When he was nearly opposite me, and it was beginning to appear as though we would have to look to another pool for trophies, he said that he had made a clean miss on his very first cast at the lower end, and that he thought it was a good one. So while he went to the upper end of the pool to see if he could induce the one I had seen, or a mate to him, to come to his fly, I started in pursuit of the one which had given him the slip.

After fishing carefully along down the shale bank, I finally made a cast which placed my hook within about five feet of the lower end of the pool, where the stream started over a shallow for the next pool. The hook had no sooner struck the water than there was a swirl. As I tightened on him, out of the water he came, and he shook that spoon until I thought I could hear it rattle. After a rush toward the center of the pool, and twice more trying to shake the hook from his mouth, he began to show signs of giving up. But not until he had dodged my landing net twice as I tried to slip it over his head, did I succeed in taking him from the water. A second later a thirteen inch bass was flopping inside my creel, and with renewed vigor I started after another to keep him company in the willow box at my side.

From this pool we passed on down stream to the next pool, where we found another black and five rock bass, and judging from the way they went after our lures, they were just anxious to get into our creels. We fished down stream until about six o'clock, with varying luck, and then left the river and started for a farm house. Here we procured lodging for the night, and our breakfast, and how we did get outside of some of our catch that morning at breakfast! After breakfast we started once more for the river, where we stayed until noon, and then as we had about two miles to walk to the railroad station, besides our dinner to get, we prepared to start on our way.



GUNS AND AMMUNITION

Edited by

ROBT. A. KANE and P. B. JENKINS

This department is intended to be a place for the exchange and discussion of views on any subject pertaining to arms and ammunition, from which no one with an idea to advance will be barred. The only conditions are that the opinion must not be manifestly absurd, that it be expressed in courteous language and that no personalities be indulged in. Each opinion is printed for what it is worth and its publication does not commit the editor to the view expressed. The widest range will be permitted and our readers are invited to make free use of these pages, but it is important to remember that **under no circumstances will personalities ever be permitted.**

Major Patrick Ferguson and His Rifle

By PAUL B. JENKINS

WITH ILLUSTRATIONS FROM PHOTOGRAPHS

NEXT to the Rev. Alexander John Forsyth of Belhelvie, Aberdeenshire, "the father of modern firearms," the most remarkable single personality in the history of the science of firearms is another Scotchman, and another Aberdeenshireman to boot, who, after a romantic career, in the course of which his striking originality of mind and fertility of resource impressed itself alike on friends and foes, and after having invented and brought into use an improvement in arms that was half a century ahead of its time, perished under the most dramatic of circumstances, in his country's service in an alien land, and lies today under a rude stone memorial in a tiny glade in the eastern edge of the Blue Ridge mountains of South Carolina. Not least remarkable of the strange events connected with his career and his end is the fact that his great invention so wholly perished with him at the same time, and in the

same disaster, that not until the lapse of more than a century after his death did the world appreciate its worth and the genius of the mind that conceived it, when its few remaining species speedily became the most valued objects of the search of the collector of firearms and the priceless pride of the four or five collections that boast such a possession.

Major Patrick Ferguson, Seventy-First Regiment, second battalion, Highland Light Infantry, as was his rank and station at the time of his death, was born in 1744, the son of James Ferguson of Pitfour, Aberdeenshire. His ancestry was notable in that his grandfather was the fourth Lord Elibank, while his father, though having dared the wrath of England by acting as one of the attorneys for the defense of the followers of "Prince Charlie" when tried on charges of treason after the collapse of the ill-starred revolution of 1745, was later

raised to the Scottish Bench with the title of Lord Pitfour. His military career began at an early age, as at fourteen he held a commission in the Royal North British Dragoons, the famous "Scots Greys," in Germany and France, in the course of which experiences he fought a duel with a French officer in Paris. From 1762 to 1768 he was at home, and spent this time in developing and improving the condition of the Scotch militia. In 1770 he was a member of the expedition that quelled a Carib insurrection in Tobago, in the West Indies. In 1777 he joined the forces attempting to suppress the American revolution, bearing himself with credit at the battle of Brandywine, Sept. 11, where his company of picked riflemen covered effectively the hard-pressed advance of the German mercenaries under Knyphausen. In this engagement Ferguson was severely wounded, the bullet of an American sharpshooter shattering his right elbow, with the result that while the arm was saved, its former dexterity—for he had been one of the best swordsmen and by far the finest shot in the British army—was forever lost, and he immediately set to work to teach himself to write, to shoot, and to handle the sword, with his left hand, in which he succeeded perfectly. Sir William Howe, jealous of Ferguson's ability and popularity, took the opportunity of his disability from this wound to disband his riflemen and to return to the military stores the remarkable weapons with which they were equipped. Upon recovery, however, his unique command was restored, and he took part in the engagements of Stony Point, where he was made commandant of the re-captured fort, and Little Egg Harbor, New Jersey, where his men defeated the American privateers and put to flight the famous "Pulaski Legion" with a fierce bayonet charge, for, despite his mastery of the problems of musketry and rifle fire, Ferguson was always a firm advocate of the bold use of the bayonet.

His command composed the most notable single body of troops in the British forces during the Revolution, inasmuch as they consisted of between two and three hundred volunteers from other regiments and were armed with the first breech-loading rifles ever used by any regular soldiery in actual warfare. This weapon was Fer-

guson's own invention, exhibited by him before the leading English army officers at Woolwich in June, 1776, later before King George III at Windsor, and letters of patent in the following December. It was, of course, a flint-lock, whose distinctive feature consisted in the fact that the chamber was accessible for loading purposes through an opening on the top of the breech, this opening being opened or closed by a vertical screw revolved by using the trigger-guard as a handle of which the screw formed an upright limb, the threads of the screw being cut at a pitch that enabled the loading aperture to be entirely opened or closed by a single complete turn. It was thus an improvement on the earlier invention of Marshal Saxe of France in 1731, whose device provided for a similar means of loading, but only after lowering the closing-screw by several turns of the trigger-guard handle, in addition to which Saxe's arms were finished in a manner far inferior to the Ferguson. Ferguson's rifles were furnished with a carefully-bored chamber, into which the ball, on being dropped, ran forward and was stopped by the rear ends of the lands of the rifling, when the powder was poured in the chamber behind the ball through the same aperture, and the opening closed by a turn of the trigger-guard. (See illustrations.) Some two hundred of these rifles, by various noted makers—S. Turner and D. Egg of London and Newton of Grantham—were brought to America by Ferguson and furnished to the soldiers of his unique command. From 50 to 53 inches in length, varying slightly as built by the various makers, $7\frac{1}{2}$ pounds in weight, equipped with fine bayonets capable of taking a razor edge, they were sighted with rear notch leaf-sights up to 500 yards, and were in general excellent specimens of the finest gunsmith's work of the period. They could be fired from four to seven times a minute, an unheard-of performance for that day, and could of course be loaded in any convenient position without the exposure of standing up to use the ramrod.

With his riflemen Ferguson accompanied Sir Henry Clinton on the expedition against Charleston in 1779, and on Clinton's turning over the territory of Cornwallis for further subjugation, he left the latter Ferguson and Tarleton as the right and left

hands, respectively, of his forces. Ferguson, now a "Lieutenant-Colonel of Volunteers" with the "local" rank of Brigadier-General, was soon detached to organize the loyalist militia in the Carolinas, thus having again

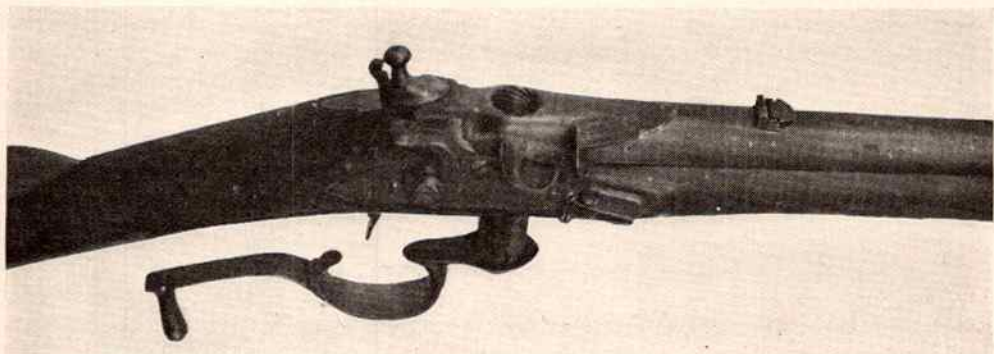
large percentage of thieves and desperadoes who hailed the opportunity of this service as a chance to ply their nefarious means of livelihood, a fact which explains the extreme bitterness cherished by the luckless



FULL LENGTH VIEW, FERGUSON BREECH-LOADING FLINT-LOCK RIFLE. SPECIMEN IN THE NUNEMACHER COLLECTION, MILWAUKEE PUBLIC MUSEUM.

an opportunity to carry out his long-standing convictions as to the desirability and usefulness of a well-commanded militia force. For this service he was especially fitted, being of an athletic bearing, a singularly winning manner, of literally dauntless courage, a hopeful temperament, strikingly fertile in quick shifts and expedients, fond of night attacks, surprises and swift movements, and unwearied in drilling and disciplining his men. Not only an able leader, he was a finished horseman and by far the best shot, whether with pistol or rifle, in the British army. With his two

colonists toward Ferguson's men. Himself a humane and generous man, frequently punishing with the utmost severity the misdemeanors of his guerilla attaches, the country through which his men traveled was nevertheless invariably left a stripped and destitute ruin. During the late spring and early summer of 1780, the unfortunate colonists of the Carolinas sent appeals westward across the mountains to the frontiersmen of the settlements in Kentucky and what is now Tennessee, asking for aid in meeting this campaign of annihilation. The story of the response of the 'back-water



FERGUSON BREECH-LOADING FLINT-LOCK RIFLE. LOADING APERTURE OPENED BY ONE COMPLETE TURN OF TRIGGER-GUARD BREECH-SCREW.

chief subordinates, Lieutenant-Colonels De Peyster and Cruger, he soon rallied three or four thousand Tories to his command, partly excellent English and Scotch settlers, but with the addition of an unfortunately

men" to these petitions is one of the most striking in American history, and is nowhere as thrillingly told as in Colonel Roosevelt's "Winning of the West," volume II, chapters 8 and 9, which should be read

by every American. At rallies and barbecues the message was spread, and everywhere the westerners dropped all other matters to take the field. By the 26th of September over a thousand frontiersmen gathered at the appointed rendezvous of the Sycamore Shoals of the Wautaga River, and as they presently took up their eastward march through the passes and defiles of the mountains, whose tops were often covered with snow, they were joined by as many more. Roosevelt's description of the command cannot be improved upon. "Mounted on swift, wiry horses, led by leaders they trusted, they were wonted to Indian warfare, they were skilled as horsemen and marksmen, they knew how to face every kind of danger, hardship and privation. Their fringed and tasselled hunting-shirts were girded in by bead-worked belts, and the trappings of their horses were stained red and yellow. On their heads they wore caps of coonskin or minkskin, with the tails hanging down, or else felt hats, in each of which was thrust a buck-tail or a sprig of evergreen. Every man carried a small-bore rifle, a tomahawk, and a scalping-knife. A very few of the officers had swords, but there was not a bayonet or a tent in the army. Before leaving their camping ground at the Sycamore Shoals, they gathered in an open grove to hear a stern old Presbyterian preacher (Rev. Samuel Doak) invoke on their enterprise the blessing of Jehovah. Leaning on their long rifles, they stood in rings round the black-frocked minister, a grim and wild congregation, who listened in silence to his words of burning zeal as he called on them to stand stoutly in the battle and to smite their foes with 'the sword of the Lord and of Gideon.'"

Not to unduly prolong a story whose every detail is fascinating in the extreme, on Oct. 5 the motley forces of the colonists, encamped at the ford of the Green River, decided to pick their best men and the least-jaded horses and to rush them at full speed to close with the forces under Ferguson, who, they heard, was already preparing against their coming. By riding all day and all night, with but a brief camp for supper on the night of the 6th at "the Cowpens," some seven hundred and fifty men, their numbers increased the next day

to nine hundred and ten, by early morning of the 7th were crossing Cherokee Creek and approaching the British camp on King's Mountain, a flat-topped and wooded hill, well known to local deer-hunters, several of whom, among the colonist forces, acted as guides. As they advanced to the attack they were joined by nearly fifty men on foot, who had followed for two days and nights in their determination to be "in at the death" and who succeeded in arriving in time for the fight. Dismounting close to the slope of the hill on which the British had established themselves, they tied their horses to trees, discarded overcoats and blankets, received the countersign, "Buford," the name of the captain of a force which Tarleton had butchered, and were given their simple orders to "look well to the priming of their rifles and then go in and fight till they died." Ferguson had between nine hundred and a thousand men, a hundred and twenty or thirty of these regulars and the rest his tory militia, well drilled and armed and with bayonets, which those who had none had, at Ferguson's instruction, improvised out of their hunting knives. So sudden was the American attack that even while one of Ferguson's officers was reporting to him that there was no danger at hand, the rifles of the colonists opened the fight.

The battle lasted an hour, Ferguson unhesitatingly taking the offensive, placing his men behind the out-cropping rocks amid the woods and leading in person charge after charge with the bayonet, now on this slope and now on that, driving the frontiersmen down hill with the bayonet only to find that as soon as his attention was diverted, those on the other side immediately slipped upward from tree to tree and regained their ground. For an hour "the mountain was covered with smoke and flame, and seemed literally to thunder," Ferguson and his officers riding daringly amid the brunt of each attack, holding their men to regular and repeated volleys, their leader exposing himself unhesitatingly and seemingly everywhere present as with shrill blasts of a silver whistle he ordered on or recalled his men. The mountain men joined in the fray with wild whoops, their rifles rattling from behind every rock and tree and ever nearer. Ferguson, dressed in

a buck-skin hunting shirt, led every charge in person until two horses were killed under him and his ever-slashing sword was broken off at the hilt, but at last, as he rode at full speed against a line of frontiersmen who had almost gained the crest, he became a fair mark for their rifles and fell from the saddle pierced by half a dozen bullets at once. De Peyster made a brave attempt to continue the stand, and in the melee men fought hand-to-hand, bayonet and butt, their faces black with powder and even their hair singed by the exchange of shots in the struggle. It was soon over, almost the entire British and tory force being killed or captured, a few only escaping by imitating the rude hat-badges of the westerners. Unfortunately a few deadly reprisals followed the victory, nine recognized marauders among the prisoners being hung on a great tulip tree that for nearly a century thereafter was remembered as the improvised gallows. A simple stone was later placed to mark the trench where Ferguson and his men were buried, and, in its place in a dark ravine at one side of the fatal hill may still be read the inscription: "Col. Ferguson, an officer belonging to His Britannic Majesty, was here defeated and killed."

With the overthrow of Ferguson's force the rifles of his invention, with which probably about a hundred and fifty of his regulars had been armed, passed from the field of war and all but from the memory of man. Many were doubtless broken or ruined in the fight. Others passed into the possession of members of the victorious forces and were displayed as trophies of the day, until gradual neglect or ignorant misuse caused their destruction. Others were cherished by more thoughtful descendants of those who took part in the battle until by unknown channels one or two have appeared in obscure places to become the snapped-up and dearly prized treasures of some fortunate collector or the gem of some great museum collection. One, given by Ferguson himself to his companion, De Peyster, is today a priceless heirloom in the family of the latter's descendants in New York City, from whom the United States Government solicited its loan for exhibition at the World's Fair in Chicago in 1893, giving a bond of \$1,500.00 as

a guarantee for its safe return. One is the property of Mr. Charles Winthrop Sawyer of Boston, the well known collector and writer on the subject of firearms in American history. One was found in perfect condition in an obscure junk shop some years ago by Mr. Rudolph Nunemacher of Milwaukee, by whom it was instantly bought, and forms today the greatest prize of the Nunemacher collection in the city's Public Museum, and is the specimen from which the accompanying photographs were taken. One is in the possession of Bannerman, "the gun man," of New York, by whom it is, or was until recently, for sale to whatever fortunate individual may "have the price" asked for its exchange. A specimen is in the collection of the Tower of London; and—note this!—one or two are still known to exist in out-of-the-way corners and homes of the Southern States, deemed priceless heirlooms by the descendants of men who brought them home from the fierce fighting of King's Mountain, but kept watch over still by eager buyers who hope for the coming of a day or a generation that may see them yielded up in return for the rich prices that may yet place them behind some fortunate collector's glass as specimens of the most notable, unique and historic weapon in all the history of the development of the science of firearms.

Of these noted specimens of Ferguson's great invention, the Tower of London's was made by Egg, as was De Peyster's; Bannerman's is by Turner and Sawyer's by Newton. The specimen in the Milwaukee museum, though practically perfect, and believed to be in condition to be fired today, bears no maker's mark. It is the writer's belief that it is probably a Turner. Much of the extant literature dealing with both the Ferguson rifle and its inventor is full of inaccuracies, some writers speaking of him by one title and some by another, some confusing his name, not a few mentioning him as a one-armed or one-handed man, inferring from his using only his left hand after his injury that the other had been amputated. Not a few early histories and some historical novels and stories reflect the antagonism of the colonists for the men of his command, unjustly ascribing to the

commander a sanction for the deeds of violence of the criminals who used his expeditions as means of robbery and murder. A rare memoir, published in Edinburgh in 1817; Blackwood's Magazine, Vol. 132; Roosevelt's "Winning of the West"; and an occasional article by General De Peyster, alone do him full justice. Riflemen ought to regard him as little less than their "patron saint" for his lifelong convictions as to the

possibilities of the rifle, his invention of so wonderful, so ingenious and so little known a device for its greater usefulness, and for his development of the "prone" and "back" positions in rifle work, which he was continually advocating and demonstrating in a day when the rest of England's tacticians were advocating mere short-range volley-fire as the best that could be expected of a soldier.

A Few Hints on Trap-Shooting

By L. E. EUBANKS

MARKSMANSHIP, in target-practice or hunting, is not so different from other sports in its requirements for proficiency as some people suppose. The fundamental requisites in athletic sports are good physical condition and training; and these are certainly of value in shooting. Good physical health insures steady nerves and strong eyes (barring local defects), and these plus practice make a good shot. Practice comes very naturally as a result of one's liking for the "game" without interest and pleasure in a sport success can rarely be won. Perfect your health, care for and strengthen your eyes and practice intelligently if you aspire to excellence in shooting.

Now a few points about this practice. Even when qualified for the sport in other respects, you will be a miserable failure if you form wrong habits that cling to you. Start right.

At the outset learn to handle a gun gracefully. To say nothing of the danger of recklessness, easy familiarity with your gun begets confidence. Especially in trap-shooting, or in any competition, the spectators get their first impression of a shooter from the way in which he handles the gun. This impression reacts on the shooter; if it is a good one the psychic conditions are favorable. Any sportsman knows the difference between "having the crowd with you" and working against a "bawl out." This is a detail; but details are important.

Your position should be a slight forward incline to counteract the recoil. Hold the gun-butt firmly against your shoulder, but

do not pull it in so hard as to tense the muscles unduly and set up vibration. In trap-shooting it is best to have your gun against the shoulder before the command to "pull" is given. The left hand (if you are a right-handed shooter) should be at convenient distance under the barrel; if the arm is extended too much it involves tension. Every move must be easy, smooth, "loose." As the target appears the left hand raises the barrel and guides the gun. Do not "sight." With a moving target, it is fatal to take time to find the sight on the end of the gun. It simply enables you to determine the alignment of your piece previously, and if this alignment is exact the shot will go straight. The best trap-shooters work on this principle, that "the hand follows the eye." They watch the target, not the gun; and this is the secret of good marksmanship. It seems odd, and neophytes naturally ask what the sights are there for. Practice brings out the answer. When you were a lad, didn't you often wonder why you couldn't throw a rock at a boy near a window without hitting the window? Experience as here advised, explains this; the fear of hitting the window directed the eyes to it and the hand followed the eye. Look at the object and let the hand work instinctively.

Keep both eyes open; there is no excuse for squinting one eye. If you are so "gun-shy" that anticipation of the report makes you close your eyes, you had better take the advice given to a boxer with this weakness, "quit the game."

Cultivate a sensitive trigger-finger, so

that you will know to a fraction of a second just when you are pulling trigger. Keep the gun-lock in such working order that the trigger works without the necessity of any

jerk whatever. I have seen guns that required such effort at the trigger that even a clay pigeon could be out of sight in the skies before the gun went off.

.30 U. S. Umbrella Point on Deer

By PAUL TIPPMAN

WITH ILLUSTRATION FROM A PHOTOGRAPH.

DEER-HUNTING in northern Wisconsin during the season of 1914 was excellent. The majority of our hunters had no difficulty in getting their deer early in the season, as a good tracking-snow was fairly general throughout the hunting territory. Several black bear

were also killed.

umbrella-point bullet in the Springfield cartridge acts very like the .22 H. P. Savage, in that it goes to pieces when about half way through the deer's body, making a hole where it comes out that looks like that made by a close charge of shot. In cutting up the animal I found many small

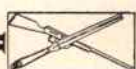


NOTE THE HOLE IN THE DEER'S SIDE.

The buck shown in the accompanying photograph was dropped at five hundred and sixty-seven good paces, only moving two or three rods after being struck. The bullet hole through the ribs of the left side shows distinctly in the photograph, being the bullet's exit. To my notion this

pieces of the lead core scattered all through the left side, opposite the point of entrance.

When will the day come when we can buy automatic rifles that will handle such cartridges as the Springfield '06, and the like? I am one of those who have been waiting for years for such an arm.



The Gunstock

By E. C. CROSSMAN

(Editor's Note: The following article, appearing originally in the January, 1915, issue of "The Rifleshot," one of the best-known English riflemen's magazines, has so appealed to us with both the originality and timeliness of its criticisms that we wish to offer its excellent comments for the benefit of the readers of the "Outer's Book," giving not only full credit but congratulations to our British contemporary for having the good fortune to secure its first appearance in their columns. See further note at close.)

THIS screed is the ebullition of a grouch. I'm it. It's written for the purpose of trying to find out why designers of rifles—particularly rifle stocks—don't call into their councils some man who has shot, and does shoot the rifle. They do, say you? Marry, fair sir, the proof be lacking.

Consider, for example, the stock of miniature rifle, designed for prone shooting, made by men who know blame well for what purpose the rifle is intended.

When a man gets down prone his head goes well forward, and his eye is very close to the tang sight on such rifles as the Martini. In fact a rubber headrest is made for the sight by one manufacturer.

Knowing this, the stock designers—if such stocks can be termed "designed," proceed to install a comb that strays off toward the heel of the stock in indefinite fashion, and is evidently put there merely for appearance and because combs are stylish on all save Lee Enfields.

The comb is too far back, and the drop is far too great. When the head is in shooting position the shooter can occasionally feel a slight touch down on the south-west corner of his jaw. This is the comb, flirting with his face.

I have always felt that if I provided board and lodging for a comb on my gunstock, it should do some work now and then. As most stocks are made it does not.

For devious years I cuddled down over the stock of a little, short, picked-too-quick, half-breed carbine, commonly known as the New Springfield, of the United States. It's

an accurate, reliable, hard-hitting little brute, and the English War Office would give its other shirt if its troops on the Continent had this rifle and a few billions of rounds of our spitzer ammunition instead of the mixture of long, short, and middling Lee's to fire blunt nose reserve ammunition.

Despite this, said little Springfield is saddled with a stock that is worse than any ever put on an European war club misnamed a rifle—and the Springfield, too, was designed with the knowledge that it would be very extensively used in target work. They put a place whereby you could grip the rifle, and they left a spot for the butt plate, and made the stock nearly long enough to keep your thumb out of your nostrils, but aside from these little things they didn't much care what they had in the stock line.

The comb is something like three inches so'-west by south of its proper location. It's too low by a full inch. It's back so far toward the butt that when you line prone it's nearer your Adam's apple than it is to your cheek. When you raise the sight for longer range than point blank things get no better quick. Of course as your rear sight rises, your drop to the comb becomes greater.

Firing at a thousand yards, your mug is nearly without visible means of support, so far have you to raise the head to keep pace with the rising rear sight.

After a few years I accumulated a lump on the jaw from the pounding of that little rifle. I was proud of that lump, feeling that it was a novel and ornamental lump. Nothing in the world could make me look any

worse, and I felt that any change would be for the better.

But, when I got to Perry I found other lumps, in fact a whole flock of them. Casey wore one that looked as if he'd had an attack of severely localized mumps. Others had them. Also the rifle committee men had them in other fashion. Some of the gents present wore their noses in sticking plaster as a habit, because of the trouble that ensued every time the safety lock thumbpiece found a nose in its way. Others used to absorb part of the recoil with their upper lips. Later they would have to prove identity, so changed were they in appearance. Still others used to gouge out sections from their chins with their finger nails, curving round the "small" of the stock at just the right place for the said gouging operation.

ridge, and I took it to Wundhammer, with some instructions. Presently there grew up a stock made for shooting, not primarily to connect a rifle action with the butt plate.

She has a cheek piece, set away forward and put on to use, not for looks. The comb is so high that the cocking piece of the bolt will barely clear it. It's so far forward that there is just barely room for the hand comfortably to grasp the stock. Also there is a very short pistol grip, barely $3\frac{1}{4}$ inches from trigger center to the point of the grip cap nearest the trigger.

She's some stock.

It's fashionable to wear the thumb alongside the grip instead of around it, in shooting prone, because the eye should be as close to the sight as possible, and when the eye is thus, the nose is where the thumb lies in gripping the rifle. If both are there



GREENER TARGET RIFLE, SPECIALLY DESIGNED BY AND FOR MR. E. C. CROSSMAN.

All of this trouble arose from a too short stock and a too low and too far back comb.

There was not a lick of sense in making that stock a copy of a caveman's favorite weapon. It would not have cost any more to have made that comb high enough and far enough forward to support the face when firing prone. The ballistics of the gun would have been just the same, the cost of production about the same, she'd have made just as nice a dent in an armory floor in coming to the order, and hence had the only virtue possessed by the present stock.

Trouble was that the stock was not worked out by riflemen, by men that could combine a knowledge of what a fighting weapon should be, with a hazy idea of what humanizing additions could be made thereto for the rifleman's comfort. They got Captain Jinks and Colonel Fussy and Lieutenant M. A. Artinet and a couple of ordnance experts, and they "done it."

After six or seven years I got tired of that rifle. I got me a Springfield action, and a 30-inch barrel for the Springfield cart-

at one and the same time it's a question which will last the longer. Most men look better with a thumb worn down, rather than a nose so injured, but the process usually goes the other way. So, as I said, it is better to wear the thumb outside of the grip in prone shooting with a rifle of heavy recoil.

To make the thumb feel better and give it sort of headquarters, so to speak, while it was thus placed, I had a little perch or thumb piece left in the wood on the right side of the grip, beside the cocking piece, and I had this checked. It serves two purposes—to afford amusement to every idiot that sees it, and to assist in squeezing off the rifle. I value it chiefly for the latter of the two uses, and it does its duty nobly.

The stock is $13\frac{1}{2}$ inches long, or nearly an inch longer than the Springfield, which is an attempt to placate the cavalry for having to use a doughboy's rifle. The stock of the match rifle of mine is straighter than the Springfield at the heel, and, of course, the comb is more than an inch higher.

When I cuddle down to this rifle prone

I can cheek it as a shotgun man does his favorite trapgun. I don't have to wonder if the comb is still on the stock and run my finger back to see. That comb is there where it belongs, snuggled up against my cheek, nearly under the cheek-bone. My neck muscles are less on a strain, my position is comfortable. I get no punches in the jaw. Only one trial is necessary to show the least observing shooter the errors in the ordinary rifle stock, after using mine. Also, I nearly forgot to say that on the right side of the grip, which is sharply checked, I had a lump or swell left to fill up the hollow of the hand to some extent. When the thumb is outside of the grip, the hand in a way merely clings to the grip, it cannot grasp and squeeze it firmly as when the thumb is across it, and this lump aids greatly in the firmness of holding.

Of course, the miniature rifleman is not subject to the troubles that beset the shooter of the big rifle. Recoil there is none. Stock shape is of little moment so long as it is comfortable and as much as possible an aid to steady holding.

But, the same measurements that result in a very comfortable stock on the service rifle, work out perfectly on the little miniature arm.

For example, I own a Martini .22 for the long rifle cartridge. It is a beautiful example of rifle making and very accurate, but the stock is designed without the least attempt to take into consideration the position assumed by the men to shoot that rifle.

In England, of course, prone shooting is practically all the shooting. This fact made the stock on my Martini still less excusable, because it is an English rifle.

On this arm, for example, the drop to the comb from the line of sights when they are set for 25 yards is $2\frac{1}{4}$ inches. The drop at the heel is $3\frac{3}{4}$ inches. The comb is so far back that it does not touch the cheek at all when one is prone. The hand-hole—portion to be gripped—is inexcusably larger than there is occasion for.

My own rifle for the Springfield cartridge has but $1\frac{1}{2}$ inches drop at the comb, from the line of sights at lowest adjustment. At the heel there is but $2\frac{1}{2}$ inches. You see, it nearly follows shotgun measurements.

Also, as I said before, the comb is well forward near the head of the gun, and the

hand-hole is short. The forward position of the comb is the important part of this comb adjustment. Also the top of the Martini comb is shaped without reason. It should be fairly wide on top and then nearly flat on the side, to lie against the cheek or jaw.

Instead, it is as round as a broom handle, save for a tiny little ornamental rib that sticks up and is of no use. The result of this rounding shape is that the comb touches but one part of the face, well down on the jaw, and this in but a small spot.

No man, shooting long enough to know his way around, and using his eyes and brain in his shooting, would design a stock so for prone or any other sort of work. The stock worked out especially for prone shooting does splendidly for any other position, but the converse is not true. A stock may work well enough for off-hand work, but be not worth a whoop for prone work, because of the different position of the face.

A comb, properly fitting, should lie well up along the rifleman's face when he is down prone and aiming. On the small rifle it can well pass just below the cheek-bone. As it is, most of these stocks touch the face away down in the jaw, about the line of the lower teeth, and the more the sights are raised, the lower down on the face does the sight lie.

A modification of this high and short comb idea is absolutely indicated on the service rifle. I care not what blunders have been perpetrated in the past, and how religiously later rifle designers perpetuated them, there is no man that can show a single tenable reason for making army rifle stocks as they are.

The importance of a close and well-formed pistol grip on the army rifle-stock cannot be over-stated. It greatly aids in holding the rifle steady, it enables the firer to pull the trigger without disengaging the tight grip of the rest of the right hand, it enables him to pull straight back with the right arm, instead of cramping the right wrist outward to guard against the hand's slipping, and with the bayonet it adds greatly to his control of the rifle.

I dislike to incite a riot by praising anything German in an English shooting paper

—except their running ability and their deadly aims at cathedrals—but I must give them credit for a fine rifle, ballistically and otherwise, in their Mauser. The stock is better shaped than is usual, and their suggested pistol-grip is nearly as effective as a full pistol-grip. Compared with the poor Lee, it is immeasurably superior.

Last spring I drew up a set of specifications for a miniature Martini with a stock like that on my match-rifle, and sent them

to W. W. Greener. He didn't seem to feel, as some factories do, that the factory would have to be set on its head to depart from the usual run of work, and he undertook the job. The rifle is finished, but about the time it was ready for shipment the "dom Dutch" broke out of the reservation, and now only Kaiser Bill knows when I'll get that gun. If ever you're in the show-room of said W. W. Greener, look over that rifle—and kiss it for me!

(Note. We find it difficult to express our gratification that Mr. Crossman has taken up the subject of gun-stocks, as they are and as they ought to be. The average gun-stock is a wretched makeshift, a marvel of unshapeliness and unhandiness. If it is intended for "the average man," then the said man must either be a curiously-constructed chap himself if he fits it, or must be, as most of us have been, at once extremely uncomfortable and unsuccessful in his attempt to use it for the purpose to meet which it was supposedly designed. Even some of the most widely-sold guns by our most popular makers feel incredibly stiff and crow-bar-like at first putting to the shoulder, a fault which is practically all in the stock. On many the "half" or "full" pistol-grip is both clumsy and a miracle of ugliness, with its rounded wart at the bottom—which, on our own new gun, we have promptly had cut off and a neat steel cap, blued to match the rest of the metal-work, substituted, with so attractive a result that half a dozen users of the same make are having the same thing done. In the past thirty years we have owned some thirty guns of sorts—rifles and shotguns, singles, doubles, repeaters, slide-actions, lever-actions and automatics, American, English and German—and we are frank to say that each one of them, save one only, that promised to be particularly effective, we have had to have worked over, re-shaped, lengthened, trimmed down at the grip or altered at the comb, to enable us to use it with the utmost handiness and to get the best results of which the arm, often otherwise perfect, was capable. The single exception was a beautiful little "hand-made" English 16-gauge, a double-barrel, by Scott, which

was always perfection from the hour of its birth. The only gun we use to any extent today and which we have not thus altered is our New Springfield, which we leave unaltered, great as is the temptation to improve on it, for the sake of being able to shoot strictly "regulation-fashion." But every time we pick it up we wonder why an arm otherwise so admirable should be handicapped by a stock, particularly a grip, or, as Mr. Crossman calls it, a "hand-hole" (only it isn't much of a hole!), which more nearly resembles that on the old Springfield than it does anything else? We would like to show our military authorities a certain Krag we wot of, which, by simply being lengthened a bit and then trimmed to exactly the dimensions of a high-grade Parker stock, has become a marvel of handiness and effectiveness, whether at the range, standing or prone, or in the deer-hunting game. To have built it that way originally would certainly have cost but a few cents more, and would have been worth more than Mulvaney's "good ten points on the range" to the man behind it, beside giving him a tool to be proud of and for the foreigners to marvel at and to copy. They may come to it next. "De world do move," as Brother Jasper vowed, even the military world, and it is liable to move a heap faster when some of the lessons of the present ruction in Flanders begin to soak in. Have you heard of the row which Tommy Atkins is sending up from the trenches as a result of being shot at by German sharpshooters armed with telescope-sighted rifles? Also of the orders for said 'scopes to be rushed from this country for Atkins' relief? Good gun-stocks may come next.—P. B. J.)

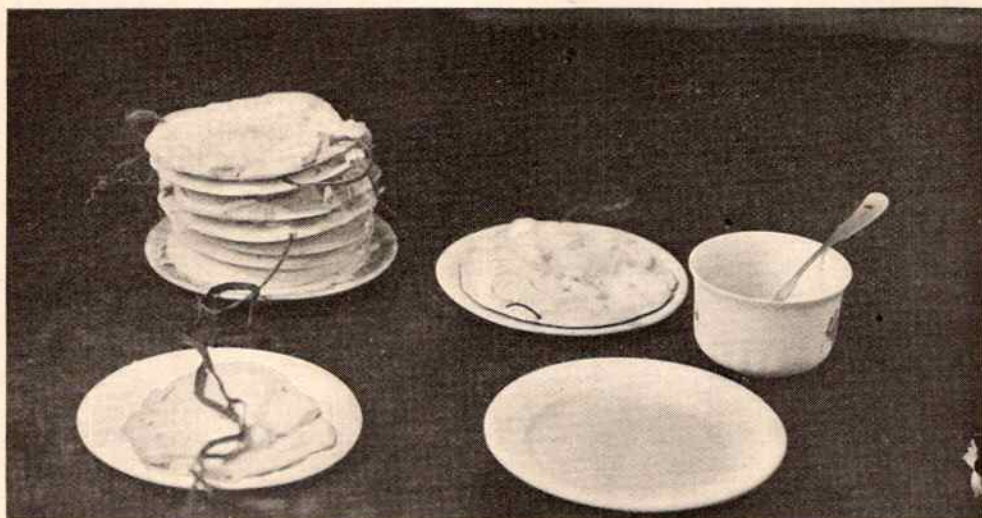


PLATE MOLDS FOR CASTING PLASTER TARGETS, SHOWING DIFFERENT STAGES.

Some Novel Home-Made Targets

By C. R. VAN DUFF

WITH ILLUSTRATIONS FROM PHOTOGRAPHS BY THE AUTHOR.

WHAT can a poor gun crank do when the game is all gone? This is the question I am facing now. I live in a little northeastern Kansas town. The country is pretty closely settled and in the last seven or eight years the game has dwindled rapidly.

Our squirrels are the gray and fox varieties. The grays are protected at all times, but the fox squirrels have an open season from Sept. 1 to Jan. 1. In some places where corn fields grew close to the timber they are fairly plentiful in the fall, but wherever hunting was permitted they were soon cleaned out by the neighboring farmers. One hundred and seventy were taken near here in two weeks' time by three or four men who did little else while they lasted in that neighborhood.

Ducks and geese are scarce, as there are no lakes, only a few ponds and creeks that offer no attractions for the flocks that pass over except when they light to rest. Then they only stay a short time before they fly on again.

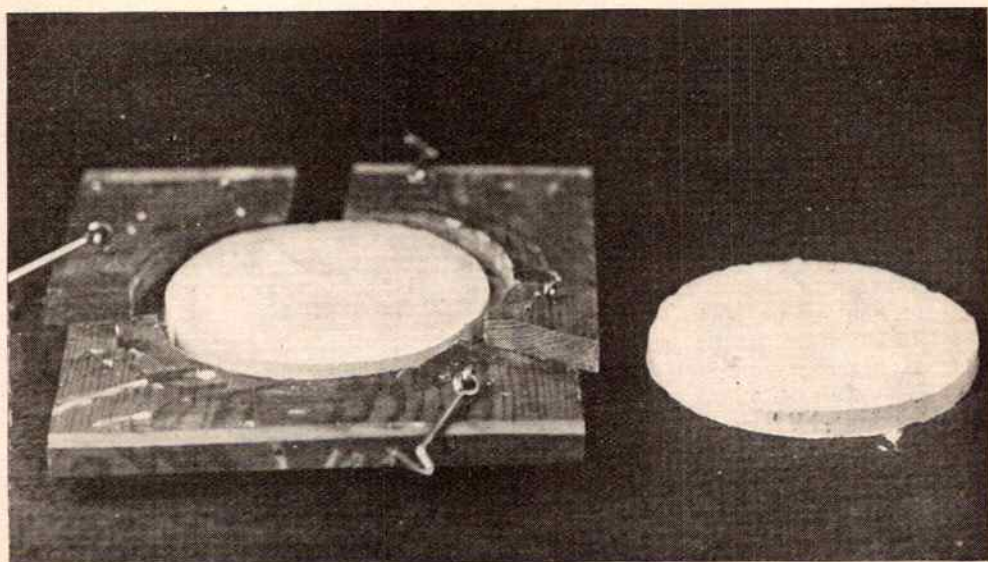
Quails are protected until 1918 and prairie

chickens the same. But they are not even to be considered, as they are practically extinct here; only a few strays from farther west being seen occasionally, and these are promptly killed by the hog who would rather see the last pair of a species in his hands than see a dozen pair the next season.

A few have been seen near town, the first in several years, and I intend to try to see them, as I have never seen any outside a museum, but the chances are that the aforesaid hog will beat me to them.

This spirit of defiance of the game laws seems to possess the greater number of hunters in this neighborhood, and the game and the fellows who stay in the bounds of the law stand no chance whatever.

When one has been used to hunting all his life and has come to love the very feel of a gun in his hands, it is "like pulling back" to quit hunting. The actual killing of the game is not what makes the whole attraction, for in my case I would rather see the rare kinds of game around me than have the slight satisfaction of possessing



THE WOODEN MOLD FOR CASTING PLASTER TARGETS—MOLD OPEN.

their dead bodies. There is just as much satisfaction to me in planting a bullet successfully in a difficult target or seeing an elusive quartering "blue-rock" fly to dust as there is in seeing a little brown body come down in a crumpled heap or drag itself away into a wood-patch to die. When I do want a taste of game it is the rabbits who must suffer, as they would soon be a nuisance if left unchecked.

Now comes the reason for all this writing. An ordinary bullseye target finally gets tiresome for rifle shooting. Blue rocks for the shotgun are always varying their angles of flight and give an uncertain moving target to be downed which keeps a problem constantly before the shooter, but even they become a little old. Moved by these reasons, I have endeavored to find as many various and novel marks for my rifle and shotgun as possible.

The first I tried were when squirrel season came on, and all in the neighboring timbers were killed off down to breeding stock for the next season before I even had a look in. I then found that "hedge balls," as the fruit of the Osage orange is called here, make a good target when you endeavor to bring them to the ground. It is easy enough to hit the hedge ball itself, but cutting loose the stem, especially when you must shoot through the ball to hit it,

is quite another story, and when you have wasted a dozen shots on some especially refractory one the feeling of satisfaction when it comes crashing through the leaves and branches is just as great as if an impudent little bushy-tailed chatterer was struggling for his last breath at your feet. A tall walnut tree with only a few scattering nuts on it will also afford a lot of shooting, as a walnut at the top of the tree is not the easiest mark in the world.

Later, when all the walnuts and hedge balls had fallen, I confiscated all the available empty bottles. These made a fine target when stuck on a rod, and the glass would fly at the impact of a .22 long rifle bullet in a manner to satisfy the destructiveness in any one. Their only drawback was their transparency, which made them invisible against the back-stop after a short distance. I overcame this by mixing whitening and water to a very thin paste, pouring some in each bottle. With a little shaking this made a fine white coating on the interior and the surplus was drained back into the big bottle in which it was mixed, for future use. A square of black paper behind the rod on which the bottles hung gave a good contrast, and stickers and paste for blocking out bullet holes completed the outfit. Almost all the bottles were of a uniform size (four ounce bottles which had

contained photographic chemicals). I measured one and compared it to standard .22 rifle targets. It was about two inches wide, approximately the same width as the nine and ten ring of the 50 yard target, so I selected 50 yards as my range. I will omit the number of shots required to break the first five bottles. (Shooting a Savage bolt action single shot target model and long rifle ammunition.) The next fifteen were broken with 76 shots.

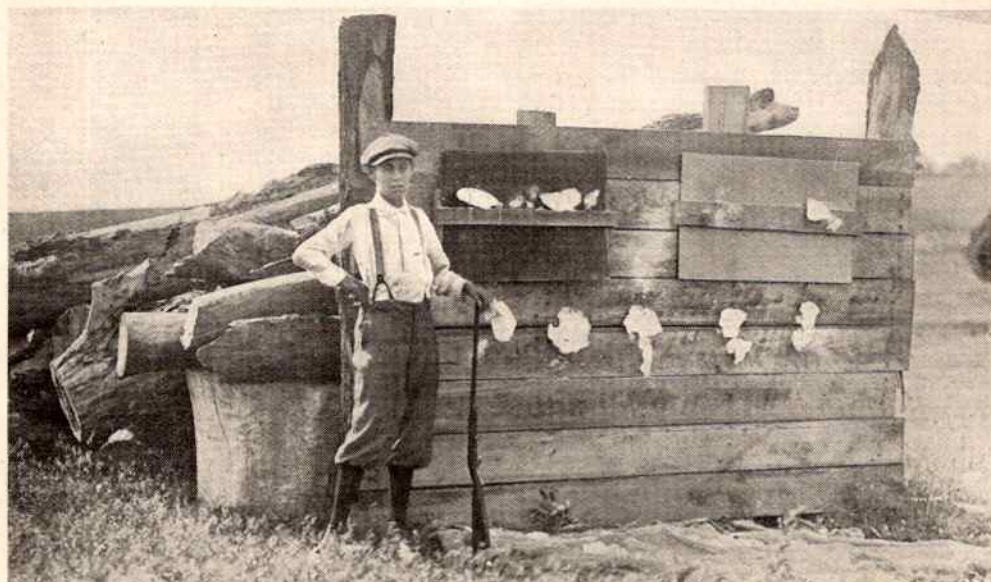
Next I shot with a friend and, after getting four out of five on the regular size battles, we began picking out some smaller ones mixed with the others and wasted considerable time on these. Later I got 22 with 84 shots, commencing at 50 yards but finally moving up to 35, as my hands were getting numb with the cold (this was last winter) and I could not feel the trigger well enough for accurate shooting.

A few days later, after a short spell of warm weather had melted the snow and dried the ground sufficiently for prone shooting, I got 38 with 100 shots. The first 10 took 50 shots, and then I found I was shooting a fine group, only a little to one side. A little adjustment and the remaining 28 fell in 50 more shots.

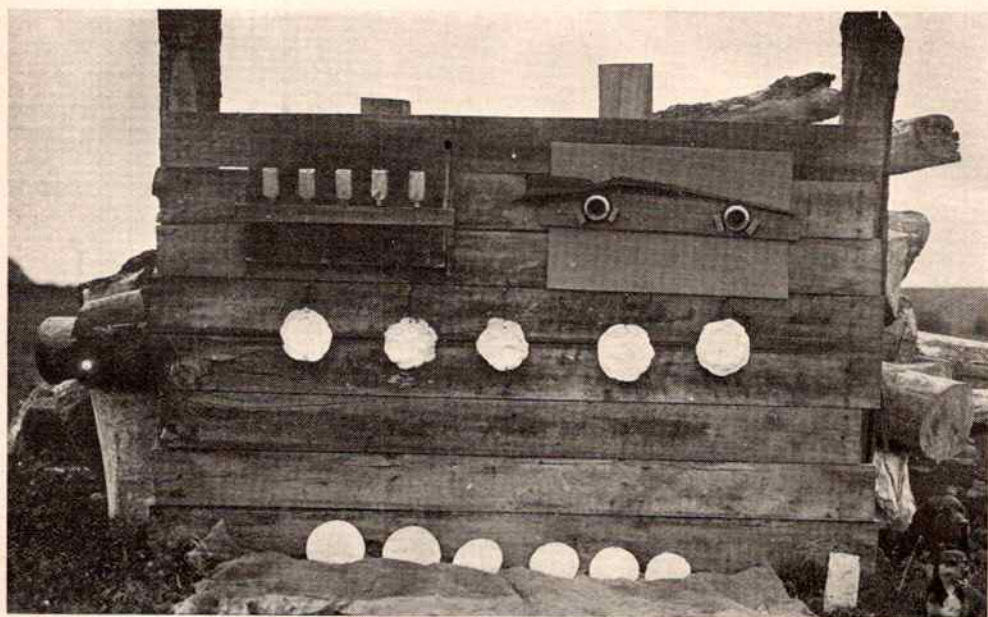
Next I got hold of an old sporting magazine in which some writer told of using

plates for a good breakable target. Plates came a little too steep for me, and I experimented to find a substitute, which I finally found in a cheap grade of plaster of paris moulded in plates. I first greased the plates thoroughly with some heavy grease such as lard and a strip of rag or piece of twine across before pouring a mixture of plaster of paris and water thin enough to pour well. When the plaster has set for several hours it may then be lifted out of the plate by the projecting ends of the strings after a little loosening of the edges. Without the string a great many may be broken by trying to pry them out. After a few have been used the cost of production may be cut by first filling the plate with a layer of broken pieces and then flowing a thin layer of plaster over to bind them together.

The cheapest plates I could find were \$.50 per dozen, while plaster of paris was only \$.80 per 100 lb. sack. Thus the initial cost of the plaster discs is far less than the plates without the added saving of using the fragments of the broken targets as a filler. Skirmish firing at the discs in two squads with each disc representing one of the contestants who must lay out as soon as his disc is smashed is one of the most exciting kinds of stationary target shooting



BACKSTOP SHOWING A FEW OF THE DIFFERENT TARGETS.



THE BACKSTOP AFTER A SEASON OF HEAVY FIRING.

I know of. Later, after a little experimenting, I perfected a better mould than the plates. This was made from a piece of inch pine a foot square. Finish smooth on both sides and then draw diagonals from opposite corners. The intersection of these will be the center of the mould. Then set a compass at four inches and draw an eight-inch circle with this as a center (for 200-yard targets). Cut it out with a compass saw, and sandpaper the edges of the hole smooth. Divide the circumference of the circle into thirds and saw through these points on a radius from the center drawn through these points. Get three sets of hooks and eyes such as are used for screen-door fasteners, and attach them so as to hold the sections firmly together.

Grease the moulds well and lay on a smooth greased board. Pour the plaster of paris into this and leave until well set before unlatching the hooks. Being cut into thirds, the moulds will clear perfectly from the cast when a mould cut in halves would stick. These plaster casts must be made as thin as possible to secure easier breakage, as in a thick disc a small bullet will merely make a smooth, round hole. Salt added to the plaster used in making the discs causes quicker setting and produces more brittle

discs. Pure Portland cement makes a better target to break if made thin, but does not set so quickly.

"Blue rocks" make a good fragile target and are just the right size for the nine and ten rings of the standard hundred yard target, which show black. Use a standard target or lay off the counting rings on some smooth white paper, lay a blue rock in place in the center and drive a nail on each side just enough below the center to keep it from falling through, then tie a string across to prevent tipping forward.

If you are a photographer you will probably have a lot of spoiled plates, or you can usually find some one who has. They can generally be gotten very reasonably. Tack a board with a groove, wide enough to receive the edge of a dry plate, and hold it upright, sawed into the upper edge. Against the boards of a back-stop, set up a row of the old negatives; gauge your distance by comparing the width of the plate with the diameter of the standard target "bull," grab a gun and get busy.

One day I was coming through a railroad cut and found a bed of light colored clay that worked almost as well as modeling clay. I carried a ball of it home and had a lot of amusement modeling rabbits and

squirrels for both rifle and shotgun targets. They showed the effects of both shot and bullets admirably.

During a scarcity of blue-rocks the neighboring tin can dumps were raided. A boy was hired to stand behind the back-top, shown in one of the pictures, with a supply, and the fun began. Starting at a point from fifty to seventy yards from the target, the shooter would walk toward the target, blowing a shrill blast on a small whistle suspended by a cord around his neck as he started moving. At any time after that the target could be expected in any direction,

straight away, straight up, quartering, sideways or directly towards you with all the force of a boy's arm behind it.

All the old standbys I ever heard of also received attention; cards edgewise, objects suspended by cords, candle-flames just showing over the edge of a timber after dark, and several other similar stunts.

Although after all this shooting I did not have any great collection of specimens, I did have a lot of good, clean fun, my shooting improved considerably and, best of all, the game was just as plentiful as when I commenced.

The Arquebus

By J. T. WARD

WITH AN ILLUSTRATION FROM A PHOTOGRAPH.

THE arquebus is almost unknown to the average person interested in firearms only by reason that he has occasional use for a shotgun, a rifle or perhaps a pistol, either in sport or in target practice, and the advance in modern firearms has been so rapid that the newer inventions naturally attract more attention than do those examples of the work of past masters at the art of gunmaking, as exemplified by existing types of arms made prior to the days of the "snap-haunce" or flint lock.

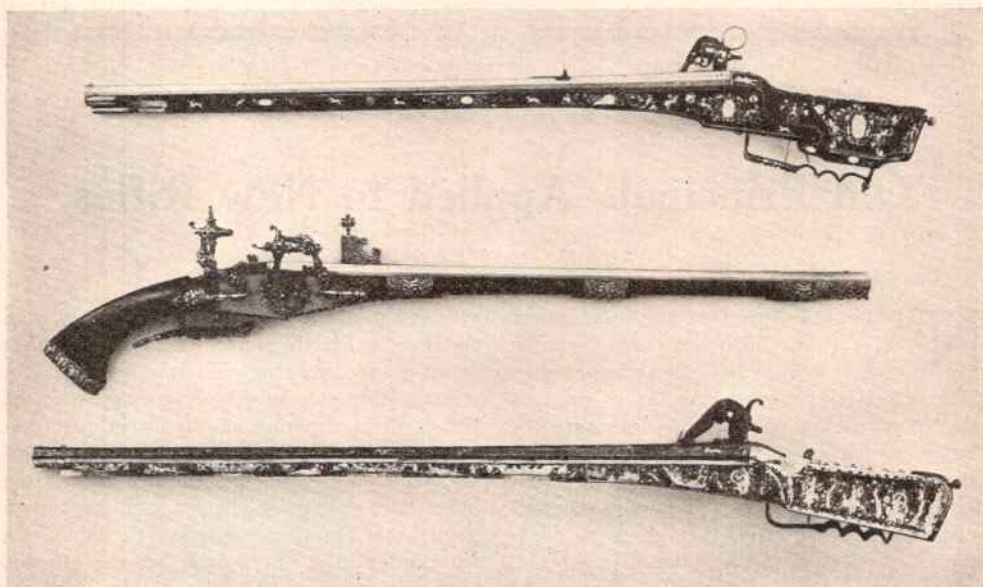
The arquebus is the oldest of guns having a close resemblance, in shape of stock, and in firing mechanism, to what may be called our present firearms. Arms made previous to this time differed greatly, inasmuch as the barrel was simply a metallic tube, perhaps strengthened by leathern bands, and the stock was a pole three to four feet long, the end of which, when firing, was pressed under the right armpit; there was no lock of any kind, and the "gonne" was fired by touching a lighted match to the hole provided at the breech end of the tube.

The arquebus was introduced in England about 1490, or during the early part of the reign of Henry VII, and its improvement over the "hand gone" as these other arms were called, lay in the fact that a cock for holding the match was brought down to the

priming by a trigger, when the term match lock, or "arc-a-bouche," a bow with a mouth, afterwards corrupted to arquebus or arquebus, was secured. The variety, as shown in the illustration, was called a "hackbutt," or "hagbut," because of its short and crooked stock, an invention of the Germans.

In the illustration, taken from a photograph of three arquebuses in the De Pino collection on exhibition at the Metropolitan Museum of Art, New York, the upper and lower arquebuses are of German make, the middle one of Brescian manufacture, and all have wheel-lock firing mechanisms.

The wheel-lock was an improvement over the matchlock, and was invented at Nuremberg in 1517; it was first used at the siege of Parma in 1521, and was brought to England in 1530. This type of arquebus had a steel wheel, the flat rim or edge of which was rasped, and the wheel protruded into the priming pan; a strong spring was provided for revolving the wheel which was pivoted to the lock plate. This spring-actuated wheel was wound up by a removable wrench or spanner made for each arquebus. A cock, holding a piece of pyrite (sulphuret of iron) was fastened to the lockplate either in front or to the rear of the wheel and priming pan, and it was so fitted that it could be moved backwards



THE ARQUEBUS WAS FINELY ORNAMENTED.

or forwards at pleasure, a strong spring being connected with it to keep it firm in either position.

To fire the gun, the lock (or wheel spring) was wound up by means of the spanner, the cock was let down to the priming pan, the pyrite touching the rough edge of the wheel, the trigger was pulled and the wheel set in motion, thus generating the sparks to ignite the powder.

Sometimes two cocks were put on each arquebus, as shown in the illustration of the Brescian gun; this was to prevent any delay should one piece of pyrite break at a critical moment, a frequent occurrence. Then there was a demand for a wheel lock which also had a cock for a match—almost all these variations are shown in the arms exhibited in the Museum.

The arquebus, as a rule, was finely ornamented, by engraving, by pierced metal work in the lock and sights, and by pearl

and silver inlaying. A fair idea as to the extent of such decoration may be gained from the illustration—and there are mighty few de luxe shotguns today which can possibly compare with the elaborate work displayed here.

The lover of fine arms should by all means visit the Hall of Arms and Armor at the Metropolitan Museum, for there are few places in the United States where such old and beautiful examples of arms are exhibited. It is true that some private collections and one or two dealers have examples of the arquebus, but in the museum mentioned above one may spend as much time as desired studying the detail, the workmanship, and any other features which may appeal—and one will never cease to wonder how such beautiful products were created with the crude tools with which we know the artisans to be equipped at that time.





Old Principals Applied to New Rifles

By H. P. SHELDON

NO one will deny that the high power rifle is the ultimate arm, yet it seems to me that its very popularity may occasionally react so as to prevent one from enjoying the full measure of benefit which is in all cases due the enthusiastic rifleman. I refer to the fact that the beginner is tempted through a casual perusal of our shooting literature to commence at the top rather than to approach that extreme by the devious pathways of practical experience. I firmly believe that there lives no really expert rifleman who has not served a low power novitiate. The modern range rifle is a highly developed mechanism, perhaps I should say the highest developed mechanism, and it requires a pretty thorough preliminary course before one can even hope to understand the principles which govern its delicate adjustments.

I maintain that the ultra modern cartridge, such as, for instance, the 30 Government, the 280 Ross, and others of like concentrated qualities, are not the ideal loads for the embryonic rifle shooter to attempt. Report, recoil, and several other things, which are essentials of these cartridges, must exercise a retrograde influence upon the mind of the inexperienced and force him to contract errors which soon become habits. One never has anything to learn which is at hand, as to learn to unlearn, and the best way to avoid forming a habit is by preventing its practice.

In the brave old days when a man's scalp was worth no more than his individuality for quick thinking and quicker shooting, the neophyte was subjected to a course of training which made sure of his future abilities in the latter requirement at any rate, and probably assisted in the complete agility of his intellectual processes. When the young hopeful had reached that ecstatic

stage where the father considered him as ripe for his first lesson in the applied science of rifle shooting, he was first subjected to a stern dissertation upon the fate that awaited the careless rifleman and the criminal foolishness of wasting a single valuable load of powder and ball. He already knew from observation about all there was to be known about the exterior ballistics of Pap's old Hawkins and so, presently, he was allowed to ram home a reduced load down into the gun's internal mystery and depart to the forest fringe to put his theories to the practical test of squirrel shooting. The chances were more than even that he was required to bring home a squirrel for every load of powder that he carried in the horn; or else attend one of those painful woodshed seances wherein the "spirits" did their marvelous "rapping" with a piece of pine shingle. Lead was scarce and hard to procure, so the hunter planned to nip his game in such a way as to imbed the bullet in the tree, from which he dug it out with his knife and chewed the lump into shape for the next shot.

When he had become dextrous in the application of these first principles, he was allowed one day to measure out the full charge—enough powder to cover the ball as it lay in the palm of the hand—and assume his part of the day's work upon the deer runway, or behind the loopholes in the log ramparts that sheltered the homestead from the attacks of peripatetic war parties.

No sane minded person, possessed of any knowledge concerning the arms of that period of which he writes, can ever swallow one-tenth of the "dope" which Cooper is responsible for; but the fact remains that, everything considered, the shooting of those long haired pioneers was little short of wonderful, and it was due to the perfec-

tion of the training which each individual underwent.

Instead of firing a few shots from each of a half dozen rifles, they became absolutely familiar with one, the one they were to use thereafter; so that by the time they were through with the small game proposition, they could give the man who made the rifle a running start and beat him in a mile. I don't intend to preach a doctrine limiting a man to one and only one rifle, but I do know from my own experience with reduced loads in modern small caliber rifles that the one gun man can cover all the needs of the game in a manner conducive to the considerations of both skill and economy by having recourse to the miniature load and a set of reloading tools. Thanks to the progressive nature of our manufacturers, the dual purpose rifle has become a realization instead of a subject for debate; a man can start out now-a-days and, with the same rifle, shoot anything from the paper targets in an indoor gallery range to a fourteen hundred pound moose on the New Brunswick barrens. All the equipment necessary to success will be found in the following: A high power, small bore rifle, preferably of .25, .28, or .30 caliber; a chunk of lead, a piece of tin and a couple of cans of smokeless powder. An Ideal No. 10 tool and adjustable chambers to accommodate the various bullets which he intends to reload. In addition to these essentials he should also have a moderate supply of the stuff that Whistler mixed with his colors, viz., "brains."

Let us suppose that the hunter wishes to do all these things and that he must limit his expenditures to about sixty iron men. He can do no better than to purchase from the Ordnance Department a service Springfield; this, and the cost of having some good gunsmith remodel the arm to the lighter and more pleasing lines of the "sporter," will account for about forty of his sixty bones. If the lines of economy must be drawn even closer than the above limit he may forego the remodeling stunt entirely and with a set of Lyman sights upon the rifle go to his shooting just the same, albeit his weapon may lack in beauty what it will surely possess in strength. And there are a heap of things which we encounter every day more unpleasing to the

esthetic sense than a well kept service rifle—the wart on the back of a red headed man's neck, for instance.

He may either buy his bullets ready made, or, desiring perchance, to test his wife's affection, he may decide to mould his own projectiles. In the latter case he orders the moulds with the rest of his equipment and, if he's wise, buys also an Ideal Dipper and Melting Pot—without which the bullet caster's lot is indeed hard.

Some night soon after the outfit is received and unpacked, he builds what is properly described as "a hell of a fire" in the kitchen stove and, all unconscious of his impending hour of agony, rambles gaily to his fate. With a wad of metal in the pot and the pot over the orifice in the stove lid, he sits down to await the melting. It does melt eventually, but not until the stove pipe is red hot clear to the collar and the paint on the kitchen cabinet is reduced to a sticky, fluid blister. Maybe he forgot to fill the tea kettle too, in which event the solder runs from its sides in streams and the "snoot" drops off. He doesn't care, the stuff is ready for the mould and he winds the handles of the latter instrument into the front flap of his shirt and pours in the first gob. The mould drops a beautiful shiny bullet which the enthusiast picks up and immediately drops likewise. His wife takes the children and goes over to the neighbors for the evening, so it doesn't really matter what the unfortunate says after that.

From time to time he fluxes the molten metal with a bit of wax. This is always an interesting operation if one lives in a town which boasts of a volunteer fire fighting organization—it amuses the weary citizens so.

Finally, as he drops the three hundredth bullet upon the protecting surface of Madam's merino shawl, the happy man decides to quit and call it a day, to which conclusion he takes off the pot—pouring a little of the hot lead down the inside of his carpet slipper as he does so—opens all the doors that are not already open, and 'phones the lady to come home. Later, when he starts to assemble his ingredients he discovers that only 27 of the first 300 bullets are fit food for a self respecting rifle, but he's so pleased to learn that the Doctor

may possibly save his foot that the discovery depresses him not at all.

But with the completion of the bullet problem the worst of the loader's troubles are over, the assembling of the load is only a matter for ordinary care and precision. Of course if one insists upon smoking a cigarette at the same time that he opens a can of powder, he must expect to have trouble with his barber, but if he merely follows directions while handling and measuring this commodity, he will experience no trouble either then or thereafter.

For the extremely short range shooting with the Springfield the 125 grain bullet (Ideal No. 308241), with a powder charge of 11 grains, weight, of DuPont No. 75 Gallery Rifle smokeless will be found to work satisfactorily in most rifles; or the heavier bullet of the same series may be used. The latter will probably give the greater satisfaction with its weight of 154 grains and a charge of 12 grains, weight, of the same powder. Both these bullets should be seated with the No. 10 tool and the shell should not be crimped down upon the base bands.

For longer range properties than is obtainable from either the above mentioned loads and still confining oneself to a cast bullet, the Ideal No. 308280 is accurate and cleanly for shooting at 200 or 300 yards, when loaded with a charge of the Gallery smokeless of 12 grains weight.

The bullets described above have these advantages: first of all, they are accurate—as much so as any small game or target cartridge, with the possible exception of the .22 long rifle—and they reduce barrel wear to practically nothing at all. They are of the same temper, one part of tin to ten parts of lead, which simplifies matters for the caster, and, lastly, they are loaded ahead of the same grade of powder.

As a corollary to the cartridges already mentioned we have the mid-range gas check bullets Nos. 308329 (Spitzer) and 308334 for use with 25 grains of Lightning

powder, and, lastly, the full metal service bullet for the extreme ranges.

The man who intends to do much reloading should equip himself with one of the justly popular powder measures as manufactured by the Marlin Company. Check the first few charges in each batch by weighing them upon an apothecary's scales so as to be certain that the slide is set correctly; once set, the machine registers very accurately, though it is wise to test it from time to time to prevent the always possible error from creeping in and working havoc with the breech pressures. While discussing the subject of breech pressure, it will be well to remember that unless the primers are seated to an even depth in the battery cups the breech pressures will be unequal, even when the powder charges are exactly the same. It is almost impossible to seat a primer correctly with one of the old style tools which are so constructed as to jam the primer into the battery cup at an angle. It should be introduced along a straight line and so gently as to not disturb the fulminate or clog the flash passage.

Summing up, we find that a first class outfit will consist of the following items:

One "New Springfield," Cal. .30, Model 1903	\$13.54
Cost of remodeling rifle to "sporter"	25.00
One Ideal No. 10 Tool, Double adjustable chamber	2.50
One extra seating screw, to seat No. 308280	.50
One shell expanding chamber.....	1.00
*Three moulds, 308241S, 125 and 154 gr., 308280	4.50
*Melting Pot, Dipper and Pot Holder	1.50
Universal Powder measure.....	3.25
Smokeless Powder, 1 pound.....	1.00
Primed cases, .30 cal., 500.....	4.85
Primers, No. H48, 1000.....	.75

Total\$58.39

*Items needed only for the casting of bullets. If the bullets are to be bought ready lubricated, deduct \$6.00 from above total. Bullet No. 308241S, 125 gr., \$5.90 per 1,000; 154 gr., \$6.19 per 1,000; Mid-Range Bullet No. 308280, \$6.60 per 1,000.





Long Shooting

THE following answer to one of our correspondents is self-explanatory, and may be of interest to others as well:

Dear Sir:—We are interested in your interest in the matter of "Long Shooting." We are as skeptical in the matter of long-range work as the next man; only we do not carry our skepticism to the point of disbelieving competent, reliable men and expert shots when they report to us what has been done or what can be done. And the proof that that kind of men usually offer as to what can be done is to report what has been done. Also, when they report to us a remarkable and exceptional performance, and call it such, we do not take it that they are telling us that they or any other man can do it all the time. Hence, we believe the so-called "1,500-yard antelope story," for two reasons. First, we know Mr. Crossman and know him mighty well, and we don't believe that he would tell a lie about it. (And if you knew him as well as we do you would say the same thing.) Secondly, the thing has been duplicated by an expert who deliberately tried it to see if it was possible, and did it. The well known shooting publication, "Arms and the Man," printed the account, and so did the "Outer's Book."

While on the same point, we may remark that you misquote, probably unintentionally, what you speak of as "the English rifleman and the dinner-plate 'spiel' . . . those English riflemen who break dinner plates at 1,500 yards." These words from your letter are an illustration of how hasty judgment and erroneous statements change truth into falsehood. Only one "English rifleman" is known ever to have done any-

thing of the sort, and, surprising as the facts were, what actually was done is known to every rifleman of wide information on both sides of the Atlantic, probably. You will find the performance described in full in the great work, "The Book of the Rifle," by T. F. Fremantle, page 414, where it is set down, not as something that any good shot could do, but as one of the most surprising things ever done with a gun. And you will please note this, that it was not at 1,500 yards, as you quote in your letter, but at 1,200, and the man who did it was given 15 shots with which to do it. The man who did it was one of the best rifle shots that has ever lived, in England or anywhere else, so that one of the great annual English rifle matches is named after him; and Fremantle, who reports it, is perhaps the most reliable and unprejudiced writers on rifle subjects today.

We may add that, personally, we do not think Mr. A. E. Book's challenge to Mr. Crossman, on the terms stated in his article in our June issue, and quoted in your letter, is anything like a fair offer. We do not think that it requires 100 per cent of 50 shots in a 6-inch group at 300 yards to justify the statement that a rifle "can be relied upon" to hit a circle of that size at that distance. We believe that we know men and guns that can hit a 6-inch circle at 300 yards, but we have never known any human being who was 'ass enough to bet that he could keep 50 shots in succession inside such a circle at such a distance; and we have known some fools in our time, too! Mr. Book's \$50 is as safe as he knew it was when he made the proposition.

P. B. J.





A Proposed Method of Converting a Pump Gun Into an Automatic

By ARTHUR T. WARD,

FOR some time I have thought that it might be possible to convert the ordinary pumpgun (meaning shotgun only) into an automatic, provided there were certain features in the non-automatic which would not interfere with the automatic functioning, and in accordance with this idea I give the following description of the proposed method.

The sketch shows only the barrel and part of the magazine of one of the ordinary models of repeating shotguns. The parts of the old and altered arm are lettered as follows:

A—Barrel.

B—Inertia Piece.

C—Translating Lever Fulcrum or Lug.

D—Magazine Tube.

E—translating Lever.

F—Action Slide Extension.

G—Annular Projection of Action Slide Extension.

H—Action Slide.

Most repeating shotguns which are operated by means of a sliding forearm are so designed that the first rearward movement of the slide unlocks the breech-bolt from the frame, this movement being only a fraction of an inch, possibly one-half an inch at the most. The rest of the rearward movement is utilized in extracting and ejecting the empty cartridge.

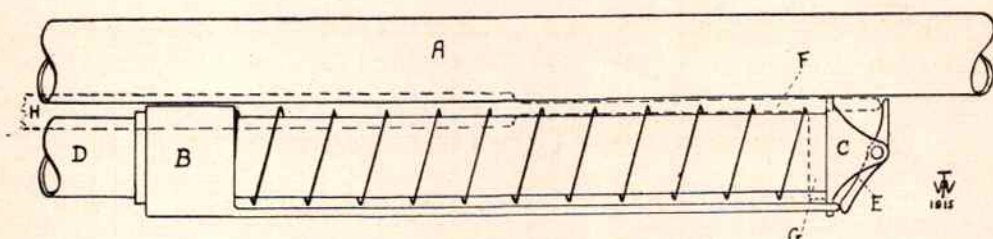
Of the three automatic shotguns on the market, two are of the type in which the barrel recoils the length of a shell. The other gun, the Sjogren, has a fixed barrel, and the principle upon which it operates is very simple. An inertia piece located in the breech-bolt is so placed that when the arm is fired and recoils, this piece tends to remain in its former position. This corresponds to a forward movement with respect to the rest of the gun and this

movement is sufficient to unlock the breech.

The proposed idea contemplates the removal of the action slide handle, leaving only the slide (H) to which an extension (F) is added. The inertia piece (B) encircling the magazine tube (D) is provided with a rod which is always in contact with the translating lever (E); this piece rests against a stop on the magazine tube and is capable of movement in one direction only. The translating lever (E) is fastened or pivoted to the fulcrum or lug which comprises the end of the magazine tube. Projections of this part act as guides to the action slide extension and to the rod of the inertia piece. The action slide extension (F) carries the annular projection (G) which encircles the magazine tube and the recoil spring acts against this part and the inertia piece, tending to keep them in the positions indicated.

We will assume the gun to be loaded and the pieces or parts of the mechanism in the positions shown. When the cartridge is fired the recoil forces the gun to the rear. As the inertia piece is movable, it tends to stay in its place, but the rest of the arm literally slides away from it. The rod of the inertia piece, in contact with the translating lever, will force the translating lever forward at the lower end and in the opposite direction at the other. The action slide extension, being in contact with the lever, will be forced to the rear a sufficient distance to unlock the breech-block from the barrel. This movement is against the spring, which is at a greater compression while the mechanism is operating because the inertia piece in its forward movement has a compressing action.

The breech-block, linked with the action slide, will now recoil and in doing so it will still further compress the recoil spring.



SECTION OF BARREL AND MAGAZINE.

The return of the action slide to its first position will complete the functioning of the arm.

There are a number of details to be considered before such a proposed conversion is effected. In the first place, the gun may be of a type such that one could not hold the trigger in the released position and be sure that the firing mechanism would not explode the primer when the breech was closed, instead of allowing the operator

to fire at will. Then the magazine tube might be so close to the barrel that it would be impossible to put a heavy enough inertia piece around the magazine. These and a number of other conditions would indicate whether a pumpgun could be converted.

The idea is given for what it is worth and perhaps someone with more time than the writer will try it and see how it works in practice.

Individual Gallery Competition, 1915

Ohio again adds more scalps to its already long list of shooting victories; a member of the Peters Rifle and Revolver Club of Kings Mills, Ohio, A. D. Rothrock, having won the individual gallery championship of the United States for 1915. In winning the championship Mr. Rothrock succeeded in placing 49 of his 50 shots in the bull's-eye, which is about the size of a ten-cent piece. His only shot out was a nine at eleven o'clock and it missed the bull by a hair. The second highest competitor was L. S. Chilcott of the Bangor, Maine, Rifle Association, probably one of the oldest competitors in the shoot and his score was 497. This score was tied by A. B. Gully, of the Park Club of Bridgeport, Conn., but his score was outranked as he went out for a nine on his 47th shot, whereas Mr. Chilcott went out for a nine on his 31st shot.

Three men tied with 496, but Harrel Crane, of the Peters Club outranked the others by finishing with 31 bulls. B. F. Spicer, of the Bucyrus Rifle Association of Ohio, came next, ending his score with 18 bulls. L. S. Chilcott, Jr., of Bangor, made a nine on his 49th shot. In the two 495's John Wilson, of the Peters Club, outranked as he wound up his string with 21 bulls, as against J. Williams of the Park Club, who made a nine on his last shot. The struggle for tenth place and last prize was between James Crawford, of the Peters Club, and Capt. Frank Alderman, of the District of Columbia Rifle Association.

Crawford wound up with ten bulls as against three for Alderman and won the place. The 1914 winner, Fred B. Spooner, of the Newport, R. I., Rifle Club, was 41st in the order of scores. Sixty-nine of the finest small bore shooters in the country took part in the competition.

Mr. Rothrock, the winner, is well known to those riflemen who have been attending the Camp Perry shoots, as he has been a member of the Ohio State Team and has always been a competitor in the big matches. In describing the methods he used in winning the championship, he says that the whole matter resolves itself into the question of hard intelligent practice. He states that he must exercise and go through a course of training and use the same care and practice that he uses in a match. He further says: "My success is partially due to the fact that our range is very conveniently situated, making it possible to get in a practice score every night. I use three 100-watt amber-colored lights placed about three feet from the target and also used a pair of King's shooting glasses, which combination seemed to do away with all eye strain." The conditions of the match called for fifty shots at 75 feet with .22 caliber rifle and ammunition, the target having ten rings one-quarter inch apart, the counting bull one-half inch in diameter counting ten and the sighting bull being two inches in diameter, total possible score 500. A list of the competitors and their scores follow:

Order	Name	Club	Score
1	A. D. Rothrock.....	Peters Rifle and Revolver Club.....	499
2	L. S. Chilcott.....	Bangor, Me., Rifle Assn.....	497
3	A. B. Gully.....	Park Club, Birdgeport, Conn.....	497
4	Harrel Crane.....	Peters R. and R. Club.....	496
5	B. F. Spicer.....	Bucyrus, Ohio, Rifle Assn.....	496
6	L. S. Chilcott, Jr.....	Bangor Rifle Assn.....	496
7	John Wilson.....	Peters R. and R. Club.....	495
8	J. Williams.....	Park Club.....	495
9	M. E. Carroll.....	Marion, Ohio, Rifle Club.....	494
10	Jas. Crawford.....	Peters Rifle and Revolver Club.....	493
11	Capt. Frank Alderman.....	District of Col. Rifle Assn.....	493
12	Lewis Burns.....	Peters R. and R. Club.....	492
13	W. R. Richard.....	Quinnipite R. and R. Club, New Haven.....	492
14	J. Albright.....	Park Club.....	492
15	John Needle.....	Peters R. and R. Club.....	491
16	John Smith.....	Peters R. and R. Club.....	491
17	A. R. Sammons.....	Marion Rifle Club.....	491
18	Talcott N. Clark.....	Youngstown, Ohio, R. and R. Club.....	491
19	Geo. F. Roach.....	Ogden, Utah, R. and R. Club.....	490
20	T. G. Crockett.....	Ogden, Utah, R. and R. Club.....	490
21	H. A. Woodward.....	Taunton, Mass., Indoor Rifle Club.....	490
22	Ben Raphael.....	Quinnipiac Rifle Club.....	490
23	F. W. Croneis.....	Bucyrus Rifle Assn.....	490
24	F. H. Gordon.....	Bangor Rifle Assn.....	490
25	Chas. Grunam.....	Ogden R. and R. Club.....	489
26	Philip E. Littlehale.....	Quinnipiac R. and R. Club.....	489
27	L. W. Somers.....	Bangor Rifle Assn.....	489
28	Frank J. Kahrs.....	Dist. of Col. Rifle Assn.....	488
29	Capt. Albert Black.....	Albion, Ind., Rifle Club.....	488
30	H. B. L. Gorman.....	Gisholt Rifle Club, Madison, Wis.....	488
31	H. C. Persons.....	Watertown, S. D., Rifle Club.....	488
32	Arnold J. Oehler.....	Iowa City University.....	487
33	Stanley Coville.....	Cornell University, Ithaca, N. Y.....	487
34	Wm. R. Kranich.....	Bucyrus Rifle Assn.....	487
35	E. B. Lacey.....	Watertown, S. D., Rifle Club.....	487
36	Geo. Guckenberger.....	Peters R. and R. Club.....	485
37	A. A. Albro.....	Newport, R. I., Rifle Club.....	485
38	H. J. Gusman.....	Quinnipiac Rifle Club.....	485
39	T. L. McMurray.....	Marion Rifle Club.....	484
40	S. O. Arnold.....	St. Paul, Minn., Rifle and Pistol Assn.....	483
41	Fred B. Spooner.....	Newport Rifle Club.....	483
42	G. W. Chesley.....	Quinnipiac Rifle and Revolver Club.....	483
43	Ralph F. Rhoades.....	Newport Rifle Club.....	482
44	Bruce C. Wilson.....	Toledo, Ohio.....	481
45	Fred F. Andrews.....	Adrian Rifle Club.....	479
46	T. J. Eiesel.....	Newport Rifle Club.....	477
47	H. V. Arnett.....	Macon, Ga., Rifle and Revolver Club.....	475
48	Chas. H. Reuss.....	Fort Wayne, Ind., Rifle Club.....	474
49	E. E. Brown.....	Ogden R. and R. Club.....	474
50	T. J. Ryan.....	Cornell University.....	474
51	Wm. Kayser.....	1st Mo. Inf. Rifle Club, St. Louis.....	473
52	Arthur I. Arneson.....	Iowa State University.....	472
53	O. J. Mooney.....	St. Paul Rifle and Pistol Assn.....	471
54	G. R. Gawehn.....	Fort Wayne Rifle Club.....	470
55	A. L. Bonner.....	University of Illinois.....	465
56	L. R. Tyson.....	Cheyenne, Wyo., R. and R. Club.....	460
57	H. B. Forman.....	Cornell University.....	460
58	Walter Krausnick.....	1st Mo. Inf. Rifle Club.....	459
59	Louis B. Schwartz.....	Manchester, N. H., Rifle and Pistol Club.....	458
60	Q. M. Sgt. J. C. Lawrence.....	Co. C. 1st Inf. Ill. N. G.....	457
61	Walter Klaus.....	Fort Wayne Rifle Club.....	457
62	W. B. Beemer.....	Fort Wayne Rifle Club.....	452
63	Lt. Harry M. Disbrow.....	Co. D, 2nd Inf. N. G. N. J.....	451
64	Capt. C. I. Bard.....	Co. K, 1st Inf. N. C. N. G., Asheville.....	438
65	Capt. Richard Stockton.....	2nd N. J. Inf., Bordentown.....	435
66	Robert W. Larke.....	Highland Park, Ill.....	430
67	L. B. Nordstrum.....	Fort Wayne Rifle Club.....	413



ANSWERS TO GUNMEN

Kindly address all communications to this department to Editor Gun Department. Always sign full name and address. It is impossible to print replies in the magazine to all letters received, and we always like to send a direct reply.

THE HAINES MODEL

EDITOR GUN AND AMMUNITION DEPARTMENT:

In a late issue I note an inquiry on the "Haines Model" revolver, with regard to where it can be procured.

The two guns of this model in existence today were made by hand by J. W. Cowan, of Yoncalla, Ore. Mr. Cowan made up the first one for Mr. Gus Peters, the Peters demonstrator, and I must say that in a considerable experience with the "sixgun" I never handled a weapon that so nearly approached perfection.

In making these revolvers I understand that Mr. Cowan uses the barrel and cylinder, also the crane, from a .38 S. & W. Special target model. He uses the straps from a S. A. Colt, and makes the lock frame and working parts by hand.

His charge as quoted to me was \$50.00, and I do not understand how he can do the job at that price. I asked another expert maker his price, and was informed that it would probably be higher than I would care to go. He mentioned \$75.00, and so I gave the matter no more thought.

Of course we can't all "ante up" \$50.00, but I wish I had it rusting for want of use; I'd have one of those guns or know the reason why.

Perhaps you will print this for J. O., as I believe it is about the information he wants.
D. Wiggins, Salem, Ore.

A CASE FOR AN EXPERT

EDITOR GUN DEPARTMENT: I have two Kraggs, one a new rifle, the other in "cleaned and repaired" condition. I am having serious trouble in cleaning them.

They will look perfectly clean to the eye, but when I run a decently tight patch through, it seems to bind in places and the inside of the bore seems to feel rough as I draw the patch toward the breech end, though it goes smoothly enough when going toward the muzzle. By this I concluded that whatever the nature of the trouble, it must be on the front side of the lands. I use Mobilubricant on all bullets, and Frankford Arsenal ammunition. I clean with the strongest ammonia, till the patch comes out white, but in spite of this if I then run an oiled patch through, then use a clean patch again, it will come out "as black as your hat," and the barrel feels rough and tight in places, though, as I have said, there is nothing whatever visible to

the eye. I have filled the barrel with "Crystal Cleaner" several times, but it does not loosen anything up.

I have taken the very best of care of these rifles and am very sorry that they should have gotten into such shape. Please give me your advice as soon as possible, as I have read everything that Lieut. Whelen and all the others have written on caring for barrels, but can find nothing to suit this case.
W. G. B., Corinna, Maine.

[We believe that any man would be a fool to try to prescribe for a case like this without seeing the barrel or barrels in question and trying them himself for the feeling of roughness and the continued stain on the patches in spite of the most careful scrubbing. Several things are possible: nickel-fouling or something of the sort, a series of extremely tiny holes eaten in the steel, some slight defect left by a boring-tool, etc., etc., though it would seem almost impossible that any of these could exist without detection in your examination. Is it possible that both barrels show precisely the same thing?—a point on which you have left room for a little doubt. And you have not stated how they shoot, whether you detect any inaccurate delivery of the bullet, etc. However, the case (or cases) would seem to call for examination and treatment by an expert, the best you can find. It is probable that extremely careful treatment with emery and a lead plug would go farther toward remedying the trouble than anything else, but this is only for use by skilled hands. Others are almost certain to ruin the barrel forever. Probably it is either this or new barrels for the guns. But first of all, get the opinion of some skillful gunsmith after he has tested the case for himself.—P. B. J.]

HOPPE'S SOLVENT

EDITOR GUN DEPARTMENT: I am desirous of some information regarding Hoppe's solvent, "No. 9."

In cleaning a rifle I first run through a couple of patches of cotton flannel to remove the carbon and then a patch soaked with solvent, after which three or four dry patches until clean, and then one soaked with solvent. Then I put it away.

This has to be repeated in a day or two, until the patch comes out clean after the rifle has stood for a day; then some heavy gun grease and the rifle can be put away

without danger of the barrel and bore rusting.

I use a .32-40 Winchester 1894-Model repeater, mostly using very light shells for short range use, mostly under 100 yards.

The load I am using is the regular 98-grain Winchester bullet, lead, with $3\frac{1}{2}$ grains Infalible. Non-mercuric primers and no crimp to shell; bullet seated friction-tight.

Am using a Silencer with this load, and it is about as heavy as you can use without exceeding the 1,100 ft. per second bullet velocity, thereby getting a report.

Now what I would like to know is whether when cleaning a rifle in the usual manner, that is, with one or two patches to remove carbon and a patch or two soaked with solvent, then dry patches until clean—could a patch soaked with solvent be run through the barrel and then put away, say for two or three weeks or a month, without further cleaning or attention, without danger to the bore?

Would the powder gases that sweat out of the barrel be neutralized by the solvent so that no danger of pitting or rusting would result?

If you can give me enlightenment through your valuable magazine, I certainly will appreciate it.

W. W. B., Covington, Ky.

[Yes. You are using a comparatively light load, and it is our belief that thorough, first-class cleaning with Hoppe's "No. 9" practically eliminates any danger to the bore of a rifle. Our individual hobby is for "Turkey red" flannel in the heavier weights, rather than the canton-flannel, as it has been our experience that with it the soaked patches take up the dirt better than the smoother canton-flannel. But your description of such a repetition of the patches will practically preclude any trouble, anyway.—B. B. J.]

USE A LUBRICANT

EDITOR OUTER'S BOOK: I wish to ask your opinion in regard to using Mobilubricant in the Springfield rifle. Granted, it saves wear on the barrel; but does it affect the accuracy or compel you to lower or raise your elevation from what you have been using?

Will it help to keep the barrel from pitting?

I use graphite in matches with the Springfield one season, but have discarded it because I thought it made the barrel harder to keep clean. I used No. 9 solvent in cleaning the gun. What do you think about it?

Had meat to use Mobilubricant this season, but wish a little advice in advance.

To what extent would cutting two inches from a 30-inch full-choke Remington pump-gun affect the pattern? Is it advisable?

F. S., Dixon, Ill.

[We thoroughly believe in using a little

lubricant, and the proper kind, on the bullet in the Springfield. It should be used with care, only a little on each bullet, and as a general thing the chamber should not be allowed to become greasy with it. It will probably improve the accuracy of your shooting and you can probably use a little less elevation than without it; though to some extent these points depend on the individual rifle and its condition. The use of lubricant on the bullets of high-power rifles for fine target work is rapidly spreading, and will continue to do so. The New Springfield, if in perfect condition, devoid of flaws in lugs, etc., will stand the often increased strain on the breech resulting from a greasy chamber; but—get this firmly in mind!—many guns will not. The ideal rifle would be one with lubricated bullet and breech-action strong enough to stand the results of a greasy chamber; but there are many guns on the market today which would simply blow the breech to pieces if fired with a high-power load and with a chamber sufficiently greasy to practically eliminate tight fit and resultant friction between the expanding cartridge-case and the sides of the chamber.

It will help to keep the barrel from pitting, largely through increased fouling.

The cleaner called "No. 9" is in our impression, the best commercially manufactured barrel-cleaner on the market today. We use it entirely in our own rifles.

To cut two inches from the muzzle of a 30-inch full-choke Remington "pump" would probably cut out the choke and so ruin the gun. We would consider so altering a good gun the most ruinous thing that could be done to it.—P. B. J.]

A DOUBLE-SET TRIGGER

EDITOR GUN DEPARTMENT: I am thinking of getting a single shot rifle for target shooting and squirrel hunting, mostly target shooting, which will be at 50 and 100 yards.

Do you think that a double-set trigger would have any advantage over the plain one? I am undecided as yet what caliber to get. Do you think that the .22 long rifle hollow point is powerful enough for squirrels, and do you think it suitable for 50 or 100-yard target shooting? What do you think of the .22 W. C. F.? What power telescope would you advise for the above use? Thanking you in advance.

R. M. W., Cumberland, Md.

[Yes; a "double set" trigger will be of decided advantage for fine .22-caliber target shooting. The long-rifle hollow-point is amply powerful for squirrels, as it is exceedingly effective and deadly. We have used a great many of them. If your next question means: Do we consider the long-rifle hollow-point bullet suitable for target shooting at 50 or 100 yards? we certainly do not. If it means: Do we consider the long-rifle bullet, not hollow-point, suitable

for 50 or 100-yard target shooting? we certainly do. Up to 100 yards, and even beyond, in a good rifle, it will shoot more accurately than most men can hold. The .22 W. C. F., better known now as the ".22 Winchester Single Shot," is an excellent cartridge, hitting nearly twice as hard as the ordinary .22, and having about one-half as high a trajectory. We would advise four or five-power for such a 'scope.—P. B. J.]

THE SPORTING RIFLE

EDITOR GUN DEPARTMENT: Sometimes, somewhere, someone said: "There is so much that is good in the worst of us and so much that is bad in the best of us, it little behooves any of us to find fault with the rest of us," or words to that effect. Now of late there has been so much in the sporting magazines about the same or similar subjects and from the pens of different writers and all that has been written has been so much at variance that those of us, poor novices at best, who read all these articles are beset with first one theory and then another until if it were not for the above maxim we, too, should join in and find all manner of fault with the theories and opinions so thrust upon us. We refrain from criticism, at least so far as the individual opinions and theories of these writers are concerned, but when we find any of these writers drifting into the scientific atmosphere of the multiplication table, not to mention addition and subtraction, we believe we have no longer to contend with opinion and theory, but actual fact, or at any rate something much more definite than opinion only. And if such writers when dwelling in the aforesaid atmosphere make certain statements that do not seem in accordance with common sense and ordinary arithmetic we crave permission to point out such error, if error it be, that they may correct it or point out our blindness in the matter if we have erred and in the latter case we shall be glad to purchase suitable glasses to use when reading such articles hereafter and to cheerfully admit "the drinks are on us."

The article by Mr. E. C. Crossman in the recent issues of *Outer's Book* on the subject of rifle actions, particularly the Ross and Mauser, contain some statements that are hardly theory or opinion, but appear to be plain statement of fact. He says in effect that a bolt thrust of some 12,800 pounds is too much for the Mauser bolt and he obtains this figure by multiplying the chamber pressure per square inch of a certain cartridge plus a 33 per cent excess proof pressure by the area of the largest portion of the rear end of the cartridge case, or in his figures 42,500 plus 14,000 by .226 equals 12,800. As 42,500 added to 14,000 equals but 56,500 pounds, Mr. Crossman makes it appear that such a chamber pres-

sure is too high for the Mauser action. But although he expressly states a little farther on that the area of the rear end of the Springfield (Mauser) case is only .174, which case is the common size adapted to the Mauser action, he makes no mention whatever of such area in the case of this large shell, when the fact is that such shell is at its rearmost end much smaller than the body of the shell and is probably just .174 to fit the bolt head. If this is kept in mind, however, one can readily see that the 12,800-pound thrust is carried on the bolt face having an area of but .174 and a pressure of 12,800 pounds on .174 equals some 73,500 pounds per square inch, which is far higher than 56,500 and much higher than the Ross proof-pressure, for the Ross rifle we saw recently is stamped ".280 Ross proved 28 tons (about 63,000 pounds), made in Canada." We respectfully suggest that Mr. Crossman has somewhat neglected the size of rifle actions in his desire to impress us with the design or type of such actions. And the following words of his taken from the article (page 175) substantiate such belief: "The talk as to the Mauser is merely because larger and larger cases are coming into vogue. The .280, the .11.2, and the Gibbs .505 are but examples of what we may expect. Good as is the Mauser, it was not designed for any such extremes, and it must be redesigned if it is to handle them." We again suggest that it is not the design, but the size that is at fault and that it is the pressure per square inch on the bolt face that should be kept in mind. Incidentally, we wish to thank Mr. Crossman for his many articles, all of which make very entertaining reading and for the excellent illustrations that invariably accompany such articles.

In conclusion, we wish to say a word or two in behalf of the American Sporting Rifle, the Winchester, Savage, Marlin, etc., born and bred in these United States and to be found in the hands of most every sportsman in the country. We are fully aware that many, many articles have been contributed to the sporting magazines in the last few years finding all manner of fault with such rifles and extolling the virtues of this and that foreign make or type, and perhaps some of the fault-finding is justified and not mere idle criticism. Tubular magazines have their faults, and some rifles not offending in this respect may offend in others. Extraction of fired shells and the general handling of cartridges by lever-action rifles may not be as positive and sure as some other types. Assembling and dismounting such rifles may be attended with such labor and trouble, and last, but not least, the strength of such rifles or their actions may not be all that is desired. But we must honestly confess "that with all their faults we love them still," and we believe that a general canvass of the sportsmen of the country would

show that the word "Winchester" is still the most popular synonym for rifle extant.

The opinion of the majority must always carry weight and there must be a reason for such opinion. We think the main reason is to be found in the fact that such rifles have been with us many years, have been tried under all circumstances and conditions, in a word, "have been tried and found not wanting," so that our faith in them is not to be shaken in a moment. There may be individual likes and dislikes of each arm, and, we admit, having preferences of our own. But such differences of opinion are minor matters, and "it takes all minds to make a world."

We are charitable enough, however, to appreciate the preferences of others and to even find them interesting. We are, perhaps, led thereby to expect a like indulgence on their part. So without further apology we risk stating our own preference in the rifle line as regards an arm for general small game use and all-around shooting purposes, the same being the .25-20 repeater with front sight, having reversible ivory and black bead and a rear peep sight on the receiver. We have also a .25-30 repeater similarly equipped as to sights and with 25-inch barrel (26 inches being standard) and with no slot in barrel for rear sight, a feature that is better than merely filling such slot with a blank.

Rifles of this type are convenient to carry in one hand, inasmuch as the balance of the arm is just about at the forward end of the receiver and the forearm meeting the receiver in practically the same straight line gives a good handhold which none of the rifles with magazines in the receiver possess. This feature, not seemingly so very important, becomes invaluable in an all day's jaunt. The receiver sights used (Lyman No. 41) not being regularly supplied for these models, a little skill is required in adapting them to these arms. But it is well worth the trouble. As to the actions of these rifles, if a little care is taken to smooth them up by hand (we have all read of the refinished Springfield, Krag, etc.), especially where the bolt rubs over the hammer and all contact surfaces in general, and if the spring in the side loading cover be reduced carefully its entire length the cover will work easily and the whole action open and close readily and smoothly enough. And when we are done we have a rifle costing but fifteen to twenty dollars and yet one that "fills the bill." It is a familiar fact to most of us that children seldom like the elaborate expensive toys so many of them are surfeited with but hug to their heart some old rag doll or some battle-scarred tin soldier in preference to all else. What are rifles to most of us but luxuries and toys, and what are we but grown-up children playing with grown-up toys? It is the time-worn tin soldier that we like the best; perhaps it is

a case of the "survival of the fittest" in more senses than one.

It may be that Mr. Crossman will think us bigoted and we know not what, but in reviewing the writings of those who have favored first one rifle and then another, Mannlicher, Mauser and Ross in turn, we are reminded of nothing so much as of that chap in the popular song who was making love to Dolly, had almost married Molly, when along came Ruth and stole his heart away.

C. F. A., Providence, R. I.

SHOTGUN LEADING

EDITOR GUN DEPARTMENT: If possible, I would like to have you give me a little information in regard to a 20-gauge shotgun that I recently ordered from the ——— factory. I find that this gun leads very badly; even after firing only one shot the patches are readily discoverable. The lead does not seem to be deposited in long streaks, as ordinarily seen, but in patches which extend practically around the barrel. Most of these are within a foot of the chamber. I use 2¾-inch shells, chilled shot and the best wadding obtainable, but it does not seem to have helped matters. When I targeted this gun I made an exceptionally good pattern and consequently I dislike to send it to a gunsmith for fear that the pattern will be altered. Would it be possible to polish the barrel with very fine emery without injuring the pattern? It also seems impossible to remove all the lead from the barrel. I use a brass scratch-brush and have tried several nitro-solvents, including Marble's, Dr. Hudson's, etc., but none of them seem to work. After shooting the gun I have cleaned it every day for a week and each time there were traces of lead that had gradually sweated out of the barrel. Any suggestion in regard to this matter would be greatly appreciated.

S. E. W., Kansas City, Mo.

[It is difficult to prescribe successfully for a case of this kind without seeing the leading as you describe it, "in patches which extend practically around the barrel." If it persists after such faithful attempts at cleaning as you describe, it would be best to send it back to the makers for their expert examination and treatment. First of all, however, we would advise that you take it in person to the gunsmiths employed by the Schmelzer Arms Company of your city, who have the reputation of being among the best in the Middle West, and get their opinion on it. They can probably tell you just what is wrong. The emery treatment might help, but nothing is more likely to ruin a good barrel than the use of emery in it when applied by an amateur. Get the suggested advice first; then send it back to the makers, if you have to.—P. B. J.]



WITH BAIT AND FLY

Edited by H. N. KATZ

This department is conducted with the express purpose of aiding fishermen and to help them aid one another. To that end communications are invited upon subjects pertinent to implements and methods of the craft. Any disciple of Sir Izaak will be given an opportunity to express his views providing he uses the language of a sportsman, and does not indulge in personalities. It is understood that each article is published upon its own merits and the publication of an article does not signify that the editor is in accord with the views expressed.

Expense and Equipment for a Florida Fishing Trip

By FRED BRADFORD ELLSWORTH.

WITH ILLUSTRATIONS FROM PHOTOGRAPHS BY THE AUTHOR.

FREQUENTLY the query is asked of me: "What is the cost of a fishing trip to Florida, and the tackle required?"

The expense of the trip depends upon the starting point, the place one goes to and the time one desires to sojourn there. Take, for instance, a person going from Chicago to Long Key, where both the fishing and the charges are fairly typical of what will greet you in this section. The railroad fare and other expenses would be about as follows:

Chicago to Long Key and return.....	\$72.90
Meals to Long Key and return.....	16.00
Tips to Long Key and return.....	6.00

Total\$94.90

Most people generally remain over for a

day in Jacksonville to break the monotony of the trip, which at best is a very tedious one. Jacksonville is an interesting, cosmopolitan city, and well worth the time. Then there are others who having never been to Florida before, plan to stop off at the famous East Coast resorts: St. Augustine, Ormond, Palm Beach and Miami. There, during the winter months, life is one grand carnival without a Lent to mar the gaiety.

The rates for accommodation at Long Key run from \$3.00 to \$5.00 per day, American plan. Assuming one wishes to spend a month there at the former rate, it would be:

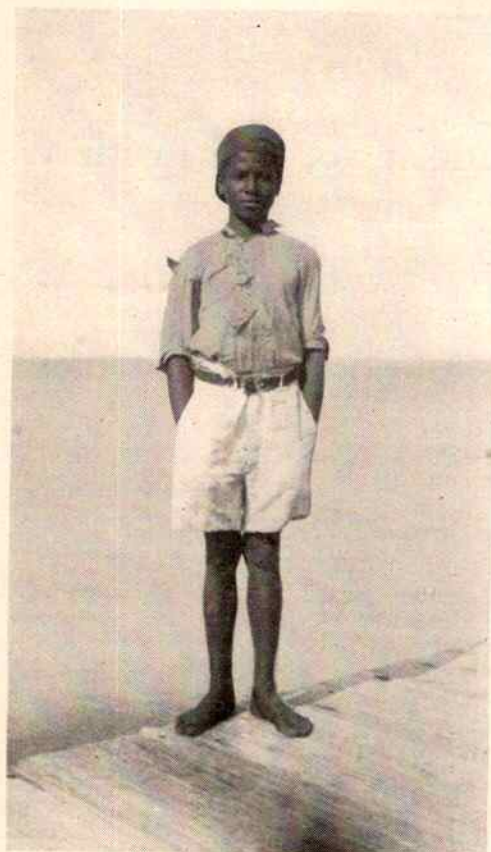
30 days at \$3.00 per day.....	\$ 90.00
Tips to waiters, bell hops, maid, etc.	20.00

Total\$110.00

The rates for boat charters per day, and the boats are:

Enterprise	\$20.00
Stranger	15.00
El Moro	15.00
Dolphin	12.00
Tarpon	12.00
Dories	7.50
Rowboats	1.50

A number of outside boats are added to the fleet as circumstances demand. The dories are only used along the shore and viaducts as a rule. So, for fishing on the reefs or anywhere else, it will cost one \$15.00 a day for a boat, or \$450.00 a month. It is customary for two to fish in a boat and if a person is alone and desires company, it is generally easy to find some one to accompany them and share the expense. A rate and a half is charged for a boat for tarpon fishing at night, which is too much.



A LITTLE "CONK."

Rods and reels rent at the camp at \$3.00 per day and \$5.00 for a special rod and reel. This is an exorbitant price and invariably causes a protest to be made, without avail. The charge may include an extra spoon and hook or two, but not always. Also it is necessary for one to have an extra line, plenty of hooks, leaders and sinkers. It is very unsatisfactory to use rented fishing tackle of any kind, for it is not dependable. Equipment of this kind often goes to pieces when least expected and then you are likely as not charged almost its original value. Most heartrending of all to lose what is perhaps your first big fish, which might have been brought to gaff had the tackle been up to standard.

The tackle shop located in the postoffice is controlled by a news company. Rightfully it should be under the management of the camp, when it could be run for the benefit of the patrons, not to graft from them. It ought to be in charge of a competent tackle salesman, a practical man if possible, who thoroughly understands repairing reels, etc. Any angler should be willing to pay a fair price for things, but does not wish to be used as a "hall-tree" to hang it on.

If you are a fresh water angler and have never fished on salt water before, my candid advice is to purchase a good outfit beforehand. Obtain the very best and you will never regret it. It may save you many a disappointment.

My counsel would be to buy a split tonkin bamboo tarpon or tuna rod. It would be preferable to have the rod conform to the tackle specifications of the Tuna Club of Catalina Island. The rod then would be of wood, consisting of a butt and tip, and must not be shorter than 6 feet 9 inches over all. Tip not less than 5 feet in length and weighing not more than 16 ounces. A 24-thread line is used. A well made rod of this kind would cost about \$30.00. It would have a heavy agate tiptop and double agate guides. A cane wound hand grasp above and below the reel seat is the best in my estimation, and superior to those that are wound with cord. A locking reel seat is the thing and the reason therefor is obvious. By all means obtain an extra tip. Then if the one you are using is broken you have one in reserve.



COTTAGES AT LONG KEY FISHING CAMP.

With such a rod you are eligible to fish under club rules at Catalina and the Tarpon Club at Aransas Pass.

In the solid wood rods, which are less expensive, there is the greenheart, customarily used. A good one can be had for about \$15.00. Personally, I think a bethabera rod a wonderful stick if properly made. Ironwood also makes an excellent rod.

Equipped with your tarpon rod you will find it well adapted for all around fishing at Long Key. For tarpon it is just the thing and on the coral reefs where the game amberjack, kingfish and barracouta hold full sway, it will be found satisfactory; also for sailfish. If by accident you hook onto a grouper he will at once bore down into the rocks, but with this rod you may possibly be able to prevent it. If he does get caught you may be able to bring him out again without losing your rigging or having to cut the line. An amberjack will occasionally run under a shelving rock also and same applies in this case. Sharks frequently take one's bait and, if you enjoy strenuous physical exertion, there is a grand opportunity to display your muscular power for a few hours or more—generally more.

If you are a fresh water light tackle enthusiast, here is the opportunity to indulge

in a fishing that will test your skill to the very utmost. It is really the greatest sport imaginable. To conquer large salt water fish on light tackle should be the height of every angler's ambition. Clubs are making every effort to encourage this form of fishing and the heavy tackle anglers are slowly being won over.

The "Light Tackle Class" specifications of the Tuna Club of Catalina call for a rod of wood, consisting of a butt and tip, which must not be shorter than 6 feet over all. Butt to be not over 14 inches in length. Tip not less than 5 feet in length and to weigh not more than 6 ounces. A nine-thread line is used.

You would want this rod made of split bamboo also, and a good one will cost you \$20.00 or \$25.00. In order to get as much weight in this sort of rod as possible, some makers place the agate guides only on one side and make the trimmings light as possible. To prevent the line from cutting across from one guide to another and cutting the rod, also causing friction on the line when it is bent in playing a large fish, five agate guides are used, besides the agate tiptop. Two tips should be secured. If fishing according to rules governing light tackle at the Tarpon Club, Aransas Pass, it will necessitate your having an

18-inch butt instead of a 14-inch one, as required at Catalina. This only applies to light tackle.

For your tarpon rod you will want a reel of the type of the 6/0 Edward Von Hofe & Co.'s "Universal Special," which costs \$45.00, or their "Star Special," the same size but a finer reel, the price of which is \$60.00. It is well to have two reels, one for emergency, same as you doubtless have for bass, trout, muskies, etc. These reels will hold a thousand feet of line, if necessary. A twenty-four-thread is the standard line for these reels and quite sufficient, though some use heavier ones for tarpon.

These reels are too cumbersome for your light tackle rod. Even a 4/0 reel is heavy, but often used. A 3/0 reel is more suitable, and a nine-thread line is standard. The "Universal Special" in this size costs \$40.00 and the "Star Special" \$53.00. As with the others, two are indispensable.

The Cuttyhunk lines are widely used. They are green in color and made of the best quality of Irish linen. Following are the different sizes and the prices:

9-thread on 200 yd. spools.....	\$2.20 net
12-thread on 200 yd. spools.....	2.40 net
15-thread on 200 yd. spools.....	2.60 net
18-thread on 200 yd. spools.....	2.80 net
21-thread on 200 yd. spools.....	3.00 net
24-thread on 200 yd. spools.....	3.20 net
27-thread on 200 yd. spools.....	3.40 net
30-thread on 200 yd. spools.....	3.60 net
36-thread on 200 yd. spools.....	3.80 net

Multiply the number of thread line by 2 and the pound breaking tension is obtained.

In the way of hooks, etc., would be suggested:

1 doz. No. 7 Wilson spoons, at 75c ea..	\$ 9.00
1 doz. No. 10/0 Van Vleck Tarpon hooks, mounted	3.00
1 doz. No. 7 O'Shaughnessy, unmounted hooks (for sailfish).....	.60
3 doz. No. 9 O'Shaughnessy, unmounted, at 84c doz.....	2.52
4 doz. No. 3/0 Rudder sinkers, at 30c doz.	1.20
3 doz. brass barrel swivels, at 25c doz.	.75
6 doz. No. .029 6-ft. wire leaders, at 35c doz.	2.10
1 rod belt.....	2.25

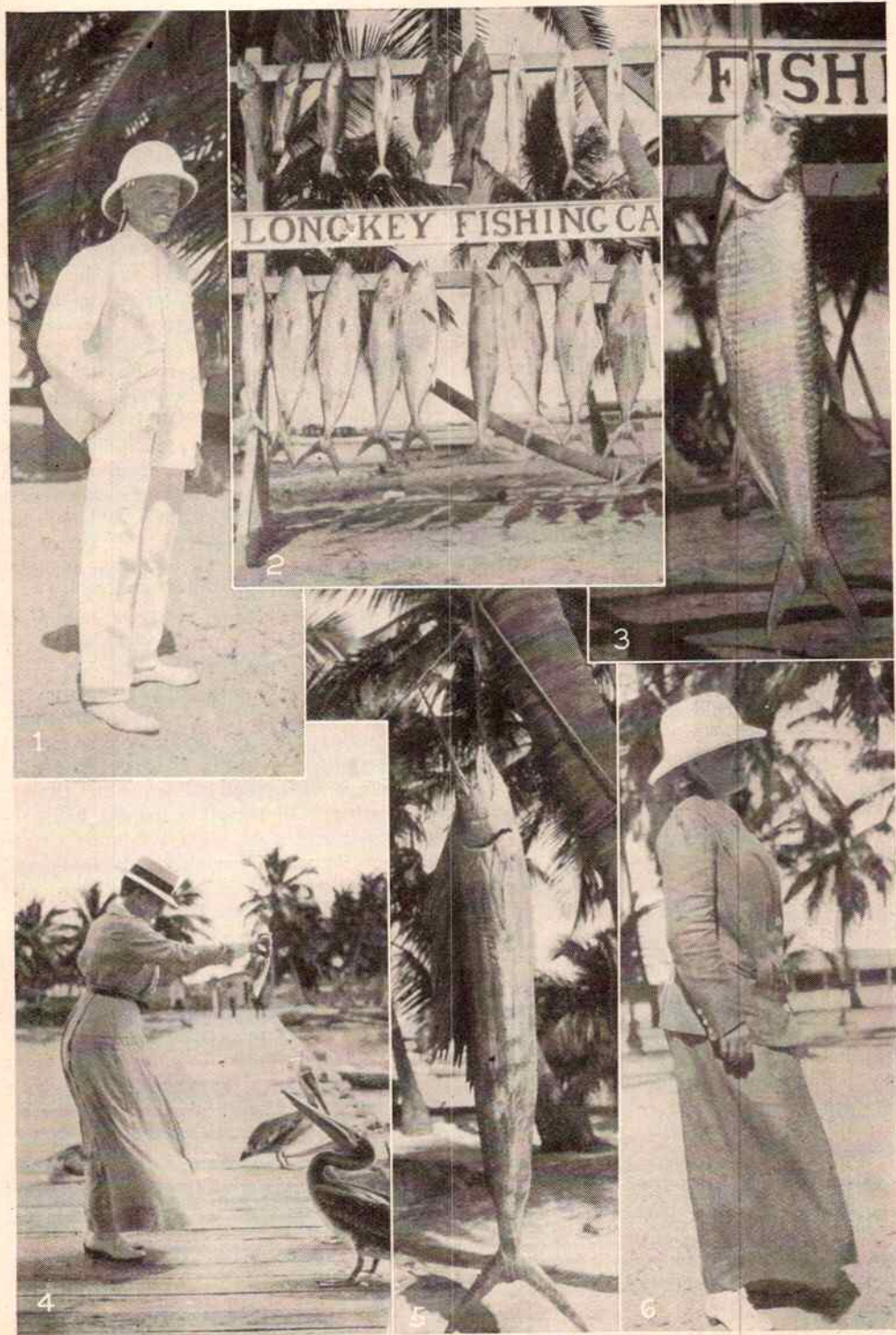
Total\$21.42

The tarpon hooks and Wilson spoons are often used exclusively at Long Key, but it is well to have plenty of No. 9 or 10 O'Shaughnessy hooks with you, also sinkers, swivels and leaders. Then you can easily make your own riggings when fishing with a bait on, or put on new leaders when rusty.

A word of warning regarding the transportation of your fishing rods will no doubt be appreciated. They are most too cumbersome to carry with you and for this purpose especially made rod trunks can be procured. These are 72 inches long and 6 inches square and cost about \$10.00. Shipment by express is the most economical way. If you check the rods through with your trunk, the railroads will charge you an exorbitant excess price for every inch above 45 in length. I speak from experience because my rod trunk the last trip, cost me \$9.80 when sent with my baggage. Returning, via express, the charge was \$3.05. Quite a difference and saving.

An admirable plan, if you fish a great deal, and well worth the expense, is to have a rod trunk made to order that will hold all of your tackle. Then everything is together and you know just where to find it. I had my trunk dealer make me one of the same material as my wardrobe trunk. It was 73 inches long and 7 inches square. The bottom space was for my salt water rods. In the cover I had a tray made on hinges with a cover to it. In this I place on one side my fresh water bass rods. The remaining space was partitioned off the full length with various sized spaces. These were utilized to hold tools, spoons, hooks, sinkers, swivels, lines, etc., etc. It was most convenient in every way and I regretted not having one made before.

Bait at the camp costs 75c a dozen for grunts. Mulletts sells for 20c apiece. When not trolling for amberjack with a spoon or cut bait, grunts are always used. Unless one runs into a school of "jacks" it is customary to catch an amberjack, barracouta, grouper or kingfish with a spoon or cut bait in hopes amberjack will follow up. When this occurs a hook is immediately baited with a lively grunt and tossed overboard. Then, if luck is with you, the amberjack takes it. Oftentimes the grunts are used in still fishing, and one has to be



1—THE AUTHOR. 2—AMBERJACK, BARRACUTA AND GROUPERS. 3—A TARPON.
4—FEEDING THE PELICANS. 5—A SAILFISH. 6—THE AUTHOR'S WIFE.]

careful for fear the groupers will take them, unless one enjoys grouper fishing. A grouper would take a box car if he could. Mullet is the tarpon lure par excellence, but kingfish and barracouta are often wild for it. I once caught one of those rare and beautiful fish, the dolphin, out in the Gulf Stream, and found it an excellent cut bait for kingfish. But baits of kingfish are often on excellent lure for barracouta. For the much prized sailfish, mullet, ballyhoo and mackerel are used. Mackerel is resorted to for the bonita and dolphin. All of the salt water fish at Long Key will take a spoon. Besides the fish above mentioned are mutton fish, yellowjack, jackcrevelle, and many others awaiting the angler's skill.

One contemplating a trip to Long Key should give the subject of wearing apparel careful attention. It is of the utmost importance that one goes properly prepared. For days at a time the weather is simply ideal. Some days the sun is so hot it will almost burn up your hat on the water and cook your face and hands frightfully unless protected, but a sunstroke is unknown there. Again, the climate is very spasmodic indeed. One day it is hot and the next sometimes very cold, a chill that penetrates to the marrow. Clothing one wears in the north in winter is found indispensable at such times. Even an overcoat is necessary under such conditions.

On the water I always wear light woolen underwear, no matter how hot the day is. If one becomes overheated from physical exertion playing a big fish it absorbs the perspiration and prevents catching cold. Again, if it suddenly turns cold or one gets wet, there is a like protection. I wear a white canvas and pith, tropical helmet hat when fishing. They are the best hats to protect the head and eyes from the penetrating sunshine. Amber glasses are also necessary. My fishing clothes consist of a rain coat, hat, and rubbers, a

khaki suit and wool outing shirt. Sometimes I wear a white duck suit and canvas shoes.

After a strenuous day's sport on the water, if very tired, I often entered the dining room in my fishing clothes and felt no embarrassment whatever. As a rule, though, I put on a sack suit of gray or blue and if the weather was hot, a white duck or Palm Beach suit. There was no pretense at dress, though occasionally tuxedos were worn. The ladies often dressed for dinner, but usually in becoming good taste and not elaborately.

When dinner was over the guests repaired to the sitting room in the lodge. Here they read, conversed, played cards or sat on the spacious verandas. The anglers held full sway and many were the interesting stories related of the day's experiences or tales of exciting fishing and hunting trips in other climes.

The climatic effect on people at the Key was strange to note. It is a conceded fact that all tropical climates are enervating to a greater or less extent. Some felt very depressed at times. Others caught severe colds and some contracted rheumatism. A great many suffered indigestion. This may have been change of climate, but was more likely caused by the food and manner of cooking it. Personally, I found the climate enervating. On the other hand, I had contracted a bad cold several months before leaving home. Through carelessness and neglect it reached a dangerous stage and caused apprehension. Medicines seemed of no avail and I arrived at Long Key in that condition. In a week's time it was gone entirely. I was frequently wet through and through out fishing, but never caught a cold, nor contracted rheumatism. I probably avoided the latter by sleeping at night between woolen blankets instead of damp linen sheets. Many others followed this plan also.

Editor's Note:—From the foregoing article it is evident that a month's fishing in Florida waters is nothing to be lightly undertaken. To purchase a fairly complete outfit and spend a month at this typical camp would cost well over four hundred dollars, exclusive of transportation, even though the angler put in less than half his time at the more expensive "outside" fishing. There are many fishing resorts in Florida, some charging more, some less than at Long Key. No doubt some of the costs could be brought well under Mr. Ellsworth's estimate, especially if one held down on, or already possessed, a considerable part of the outfit. Nevertheless it is quite apparent that the northern visitor, unless he has special connections, must pay well for his sport.





Artificial Bait Casting Along Our Inland Streams

By A. R. MUSELLER.

WITH ILLUSTRATIONS FROM PHOTOGRAPHS BY AUTHOR.

Editor's Note:—In our issues of June to October, 1915, inclusive, there was published a most interesting and instructive serial by L. J. Tooley, entitled, "A Baitcaster's Brownings." This article covered many of the primary as well as the more advanced points of bait casting knowledge, in a most comprehensive manner. Within a few days from the time that the mail brought us this manuscript, we received from another gentleman, an article that in many respects apparently covered the same grounds. On reading over this second article, however, we discovered some remarkable facts. In many things the conclusions of this author were identical with those of Mr. Tooley, but in a number of other most important items they differ radically, yet each is thor-

oughly efficient at his branch of the sport. The explanations for their differing advice is to be explained in this way: Brother Tooley is located in Detroit and his conclusions are naturally drawn largely from his experience on the broad streams and smiling lakes of Michigan. The second author worked out his facts mainly among the small woods streams of Oklahoma.

So interesting was this comparison of differences, that, in spite of the fact that some of the information is at least partially duplicated, we decided to retain and publish both manuscripts. Broadly speaking, the knowledge acquired by each author never really contradicts the conclusions of the other, but supplements it for application under widely varying conditions.

FOREWORD

SEVERAL years ago I located in a portion of the State of Oklahoma, where I had the opportunity of fishing near home for the black bass, the croppie and the various sunfishes. The country was largely unsettled, composed for the most part of great cattle pastures and much of the land itself was rough, rocky, broken and covered with native hardwood timber. Its streams are deep and clear, but small. It was then and still is, an ideal place for black bass to live and propagate.

I knew nothing of artificial bait casting and found very few other persons who knew anything about it, for the styles of fishing ran from the small boy with a hickory pole and the common fish worm or night crawler for bait, up to the more pretentious slender bamboo pole of ten or fifteen feet length and live bait in the way of minnows, crawfish and frogs; and those

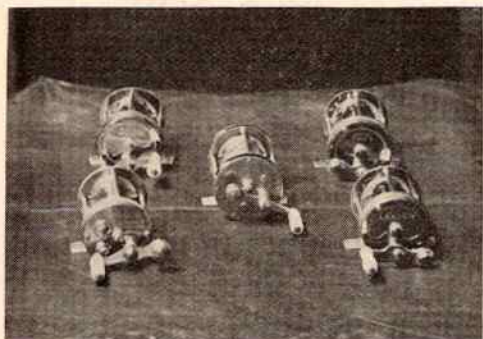
methods are to this day pursued by the majority of the fishermen in this vicinity.

For some reason I was not satisfied with this method. Perhaps it was because I had been reading in the various fishing and hunting journals about artificial bait casting. But whatever the reason, I longed to be able to cast without the use of the cold and messy live bait.

With this idea in mind and having a little leisure, I purchased a four and one-half-foot steel rod, a cheap line fifty yards in length, a cheap reel and with a few ordinary spoon hooks, together with a wooden minnow or two, sauntered trustingly out to the banks of one of our beautiful creeks hard by and commenced casting. It is needless to say that I returned home from that initial trip a sadder and wiser man. Incidentally I was minus much of my original paraphernalia, which had been left hanging in the trees along the creek or

fastened to submerged logs and rocks in the creek bed.

But I was determined to learn and I feel safe in saying that there was no stretch of water for miles surrounding my home



A BUNCH OF REELS.

that did not finally carry more than one memento of my early efforts at learning to cast. It took me two years to learn by expensive and irritating experience, what I believe can be learned here within a few days, for I shall direct you how to avoid my own blunders.

I shall pass over many of the errors I committed unless they teach a lesson, and shall tell in plain and simple language how you may soon become an expert caster, with either right or left hand, either by the overhead or underhand swish and swing of the rod, so that you may cast for several hours or even all day without becoming weary.

I shall also intersperse through these lines, in a manner as attractive as I know how, many little crooks, turns and knacks found by me to be useful and often necessary before I became satisfied with myself as an artificial bait caster. I feel sure that any one who will follow the instructions herein given, will soon master the technique of the art and in a little time develop into an enthusiastic and successful bait caster.

The Reel

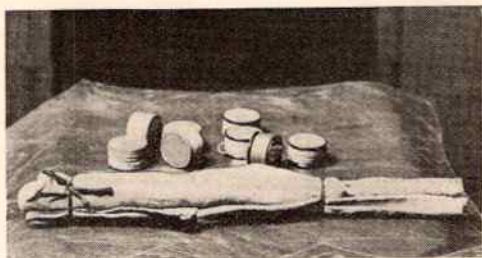
IT must be remembered that what I write here has nothing to do with fly fishing; that dainty and poetic accomplishment being a separate and distinct art, differing in almost every way from artificial bait casting. Bear in mind also, that we have

to do for the most part with black bass fishing only, although along these many smaller streams of our central inland waters, sunfish, croppie and an occasional fish of yet other kind may fall a victim to the fisherman's skill.

First, then, we will consider the articles positively necessary to learn this art, for art it is beyond question. A little expense is necessary to properly equip one's self, and economy in price beyond a degree is a positive extravagance.

One must have a quadruple, multiplying reel, of at least one hundred yards capacity for reasons which will be hereafter shown, and this reel should cost at retail, not less than five dollars, and anything beyond that is better within decent limitations. I tried the cheap reels because I knew no better. Avoid this blunder and buy a fairly good reel. The perfect reel has not yet been produced, but when made it will be a level wind, anti-back lash, self-thumbng reel, of a dark color; and one that may be taken apart without the use of any kind of a tool whatever.* There are several reels that possess some of these features, but no one reel that possesses all of them and I shall presume that you have not purchased an anti-back lash or level winding reel.

Having secured the reel, register a solemn vow to take good care of it and to clean and oil it after every day of fishing. I have owned a Shakespeare Standard Professional reel for many years, still have it in good condition, like it and often use it, and expect to do so for many years to



SAMPLE LINES.

come; but I have always given it the best of care.

*The first chapters for this article were prepared in 1914. Observe how closely the "Beetzel" reel, brought out during the summer of 1915, meets with the first three essentials wished for by the author.—Ed.

A Word About the Line

The next thing to secure after getting the reel is a line. Right here I again went wrong at first, and did not purchase a good all-silk line. Beware of any kind of line save and except a silk line.

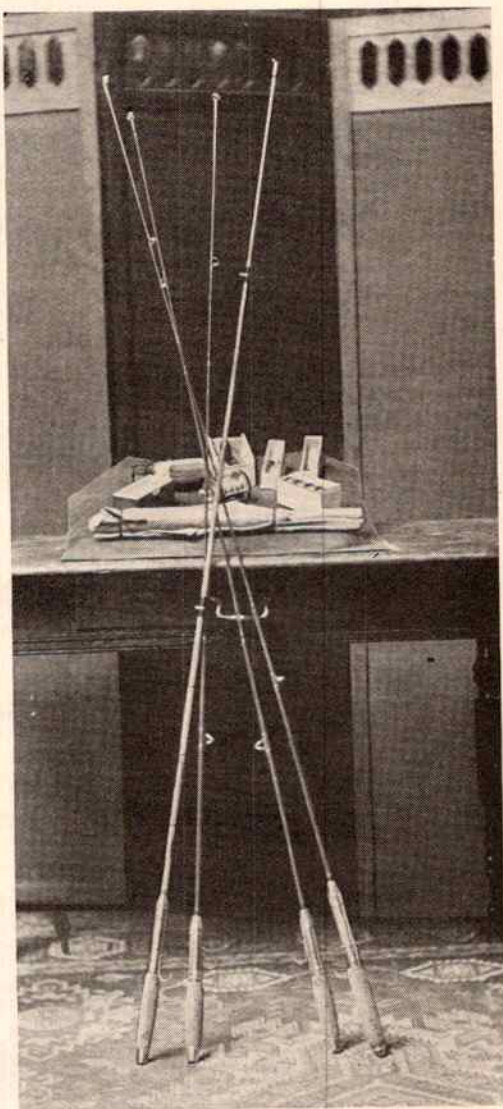
It should not be less than eighteen nor more than twenty-four-pound test, and it should be of standard make. While this recommendation is for a stronger line than the average bass line, I will give conclusive reasons further on why you need so strong a line to fish our smaller streams.

I recommend standard makes, for then you are dealing with responsible houses as a rule and defects and occasional imperfections may be promptly corrected, without the loss of much time or money. When you once get a line that suits you stick to it. Silk lines are delicate things, do not often last more than a season at best and must positively be thoroughly dried immediately after using. The next day will not do. I have found the leading manufacturers and sellers of this class of goods very clever, accommodating and reliable, making good defects without a murmur. In this connection you should also remember that a reel marked "100 yards" will not always carry a fifty-yard line of twenty or more pounds' test, as the pillars will frequently interfere with the last five or ten yards of line after it becomes partially dampened and swollen. Therefore buy a reel of one hundred yards capacity or even a little more. The economical way is to buy one hundreds yards of good line at a time and then use one-third of it at a time if fifty yards will not readily spool when wet, for your line will get wet sometimes in spite of all you can possibly do and there is nothing more aggravating than a line rubbing on the pillars of the reel. It will positively ruin your casting.

I have tried oiling my line as suggested by some, but it has not been satisfactory, and besides, the handling of an oiled line is not a pleasant experience.

The Rod

I favor a good steel rod, one day after another, rain or shine; bad places for casting and all inconveniences and accidents considered. This preference is no doubt in part the result of my persistent insist-



FISHING PARAPHERNALIA.

ence on ambidexterity in casting, as the few added ounces of weight over the split bamboo have never, so far as I have been able to discover, hampered or tired me in the least from its weight, though I have fished many a day with younger men who used the split bamboo and tired before I did. But they did not cast with either hand. This rod should cost at least four dollars and double that would get a better one.

See that the guides are large, whether they be steel or agate. The first guide

and tip should be agate, the others are optional; but whether of steel or agate, see that they are not small. The smaller guides increase the friction and are more liable to create snarls. Especially is this true of steel guides. Agate guides need not be quite so large. I still have among my many mementoes of early and expensive blunders a beautiful split bamboo rod, with agate guides complete, made by a celebrated rod maker, which has never been wholly satisfactory to me on account of the smallness of the guides. I am a stickler for the four and one-half foot rod, not longer, for our smaller streams. It also suits me just as well on the larger bodies of water where one has more room. That may be merely the persistence of habit, however. Along the streams the willows droop, the birch bows often overhang and the stately elms interlace. Under these conditions the short rod has advantages, not only in the casting itself, but as well in landing your quarry after catching it. The shorter the rod the better, consistent with utility; and the advantage of a short rod over a long one in brushy places can be hardly overestimated.

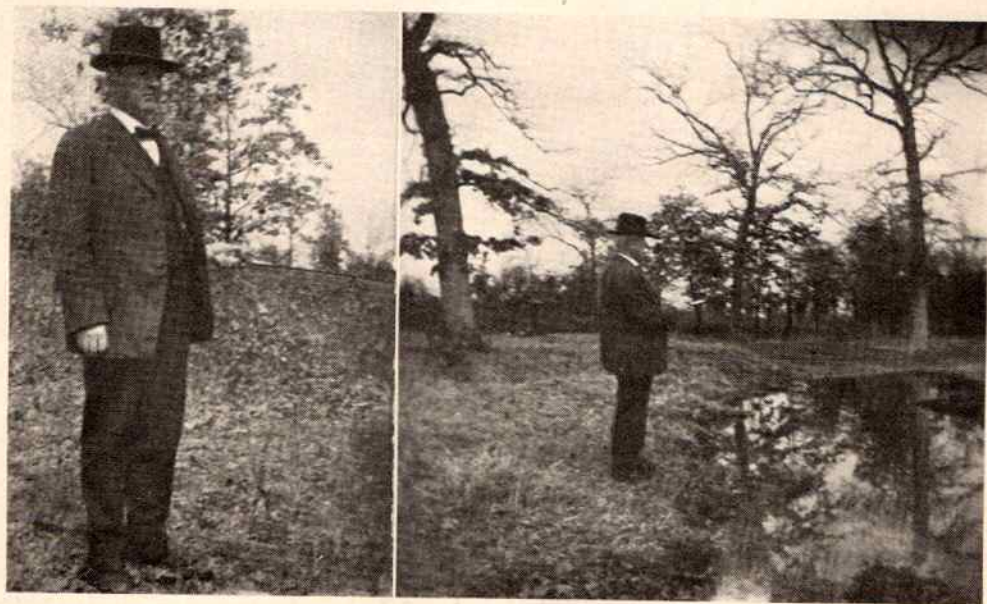
Winding and Assembling

Having selected your reel, line and rod,

it is necessary for you to learn how to run your line on the reel in the first instance and here is the easy way to do it, learned by me after many mistakes and errors.

Tie the end of the line to the spool shaft, passing it over the post on the front of the reel, where it must run when in use. Drop the spool of line some distance from you, say ten or fifteen feet, and in a room if convenient, or on some other smooth surface. Grasp the reel with the palm of the left hand and on the left hand side of the reel, little finger and ring finger under the reel, thumb on top of the reel. Seize the line between the forefinger and middle finger of the left hand, holding the line taut while turning the handle of the reel with the right hand. With the friction between the two fingers through which the line runs you can easily wind the line level by moving the fingers back and forth across the reel in front. The line at the same time must be wound reasonably tight, otherwise you will find a loose line when casting and that means a bad back lash. Always wind your reel in this way when not retrieving from a cast and you will never wind a loose line.

Assemble your rod in the following manner: With the reel on click, fasten it in place on the rod. Then, if the rod be in four parts, place the piece adjoining the



CASTING ATTITUDES.



UNTANGLING THE TOO-FREQUENT SNARL.

butt in its ferrule, seeing that the guide is in line with the reel. Then assemble the third joint and tip, with the guides in line; and lastly, assemble the two parts of the rod thus made, with all the guides in line. Always assemble your rod in this manner and you will soon be surprised at the brevity of the operation.

Casting

Secure a smooth weight of a half ounce or a little more in weight and bear one thing firmly in mind—keep away from the water until you have done considerable ground casting.

Select some level spot, free from weeds and trash—the back yard is often a good place—and you are ready to thread your rod and take a lesson. With your rod assembled, your line evenly wound on the reel, with the rod in your left hand, the reel at click, with your right hand turn the spool of the reel around until you can seize the end of the line and pull it over and in front of the front reel post. Put the end of the line through the first guide and set the end of the rod on the ground and thread the rest of the guides with the line. Then fasten on the half-ounce weight you intend

to use in casting. These weights may be bought for a few cents each if you cannot devise one.

Right at this point I shall insist, if you are right-handed, that you take the rod in the left hand. Place your left thumb on the line on the spool, release the click and let the line run from your thumb until the weight is a foot or more from the tip of the rod. You are then ready to make your initial cast. Do not forget that thumb. It must hold the line and keep it from running out until you partially release it at the psychological moment. Swing the tip of the rod behind you or to one side slowly, always feeling the weight. Then make a forward cast with rod as though you were throwing a crab apple from the end of a stick as you no doubt often did when a boy. But keep the thumb gently on the line all the time and feel the run of line, and then, just before the weight strikes something tighten your thumb grip on the spool and the line will stop running out and the weight will drop.

Now grasp the left side of the reel with the palm of your left hand, with all of your fingers under the rod and reel, the body of your hand enfolding the reel and your left

thumb free and in touch with the line where it leaves the reel. Thus holding the rod with your left hand, commence reeling in the line with your right hand, the left thumb guiding the line back and forth across the reel so that the winding is done level.

More About Casting

You will soon learn to automatically shift your left thumb from side to side of the spool about every fourth or fifth turn of the handle, which means from sixteen to twenty turns of the spool in a quadruple reel. If all is well you are ready for another cast. You were no doubt surprised at where your weight landed when you made your first cast—I was—but stick to it, and be sure to always feel the line running out under your thumb as you cast. In fact, it is your thumb that must hold the line at all times when not actually making a cast or reeling in. It is the thumb that must be educated.

After a few casts with your left hand, try casting with your right; and I am sure you will cast no better with the one than the other in the first instance. But you will no doubt think and feel that you can do better with your right hand if right-handed. This, however, is largely a mis-

take as to the fact, for the action of casting is wholly new and novel and the feeling of security in the one hand over the other is deceiving; it only seems so. But in any event compel yourself to shift hands in the very beginning and you will be surprised to soon observe that you cast as well with one hand as the other. While the feeling of security will perhaps not be the same, the execution will be. Learning thus ambidextrously gives one a mighty advantage over the single-handed caster. As a matter of fact, the left-handed caster has an advantage over the right-handed caster, for it is not necessary for him to shift hands to reel in. Do not forget this great advantage. Compel yourself to cast overhand, underhand, across from side to side and from all directions, always taking a little time to get your rod exactly right before you make another cast.

Do not practice more than fifteen or twenty minutes at a time at first. Then after a little while you may practice longer. And do not forget to keep away from the water. Several lessons of this kind will fit you to cast on the water, but do not be in any hurry to catch a fish. After you think you have learned it you will find that you are very badly mistaken, for it takes a little time.

(To be continued)

My Tackle for Fly Casting

By ROBERT HODGSON

THE above title does not cover my past fishing tackle, but only the present.

I remember well when as a boy I would go fishing with a cedar pole and piece of cord. If I could not procure hooks, I would use a bent pin. Some way or other I could always bring home fish and usually they were trout.

When at length I was presented with a three-joint bamboo rod, linen line and a float, I certainly thought I had "some" fishing tackle. Each year has seen improvements in the outfit, and having found my ideal tackle "for this year" I will try and describe same.

Rod—Westwood's waterproof, silk-bound, split cane unbreakable; reel seat below

hand; made in English style and fittings; chocolate color; having lock joint, gun metal, waterproof ferrules. It is eight feet long and weighs 5 oz. I prefer this rod for general fly fishing, but for a pocket rod I like the nine-joint rod, other specifications as above. These certainly are fine rods and I prefer them to any others. Many anglers like steel fishing rods for fly casting. I have used them enough to give them a try-out and I do not like them near so well as above specified rods.

Line—Hercules braided silk. This line has an unusually smooth finish and the enamel is extra strong and durable. This line can be used for either bait or fly casting, is light and extra strong.



WHERE THERE REALLY ARE SOME GOOD ONES.

Leaders—Hercules gut casts. This gut is very soft, flexible and strong. I can tie on a fly with gut that has not been previously wetted and it does not crack or injure it in the least. It feels between the thumb and finger like a good round hair and all anglers know the soft feel of a hair.

Reel—Automatic. I prefer the automatic reel as it saves the bother of taking your eye off the fish to move catch on ordinary reels. The one I have reference to is the aluminum reel costing in the neighborhood of \$8.00, and is an excellent automatic.

Fly Book—I prefer them seven inches in length, solid leather with strap. No aluminum boxes for mine for pocket use. The leaves in the above mentioned book hold flies tight so they cannot get out of position. It folds neatly and is not bulky to carry.

Net—For a convenient net to carry I prefer a linen net with a short handle and a strap to carry on arm.

Flies—How many times have fishermen discussed the merits of one fly as against another? We all know, however, by experience that there are times, localities or conditions which affect the result. If one fishes in no fixed locality, a well stocked

fly book, containing many varieties and of various sizes, is most desirable.

If it is a bright day and the water is clear, select dark flies of small size. If a dark day and the water dark in color, use larger flies and of a brighter color. My old reliables for trout are:

Red Ibis, Queen of Waters, Black Gnat, Professor, Cowdung, Fairy, Canary, Silver Doctor, Brown Palmer, Parmachene Belle, King of Waters, Royal Coachman, Lake George, Jack Scott, Montreal, Hare's Ear, Governor, Seth Green, Grizzly King, Canada and Butcher.

Among the bass flies my preferences are:

Brownie, Babcock, Brown Palmer, Yellow May, Seth Green, Grizzly King, Benny, Montreal, Coachman, Silver Doctor, Bloody Butcher, Brown Hackle, Yellow Montreal, Royal Coachman and Red Ibis.

In salmon flies I have found the following successful:

Jack Scott, Butcher, Dusty Miller, Silver Grey, Silver Doctor, Freemason, Thunder and Lightning, Fairy and Black Fairy.

Living, as I do, in Canada, I buy all my flies from T. Wight & Son, Trent River, Ont. They make very fine flies.

All the other goods are manufactured by The Allock, Haight & Westwood Co. Toronto, Ont.

Some Fishing Kinks

CAN you remember when you caught your first Bull Head? Well—maybe they did call him a Horn Pout where you came from, or perhaps a Mud Cat. Back in my town he is just a Bull Head and will ever remain so to the boys both young and old. But anyway, can you remember the first one you caught? No? Well, neither can I. Somehow it seems as though we boys just always did get 'em, as far back as I can recollect. But this I do know; that ever since I brought home that first shiny black fellow whose tough, slippery hide covered such toothsome "eating," the problem of separating said hide from the aforementioned tooth-someness has always fretted me.

My Pa now; he used to cut the skin all around back of the heads. Then he would nail the head to the top of the old stump down in the corner of the back yard with a big spike, and pull the skin off with his fingers. That was all right if you had the yard and the stump and the spike and the hatchet to drive the spike (a hammer would never do, of course—Pa never used one). And then, if your fingers weren't strong like Pa's, they were forever slipping when you tried to take hold and pull. Years afterward Charles Harold showed me how

to use a pair of pliers to grip the edge of the skin with—much better than fingers. But, "jiminiy crickets," think of all the things a fellow had to have handy just to yank off those slick hides!

So when Brother Carter, from down in Clinton Ill., told us how to do the trick with just our old jack knife and a bit of hardwood—well, do you wonder that he drew the first prize in the October Kink Contest? Read his contribution below and you'll see why the decision went to him—yoo-nanni-mus.

As stated in our last issue, the Angling Kink Contest will be closed during the winter months, but we have still scores and scores of good Kinks on hand which will be published in each issue. In closing the contest for 1915, the editor wishes to sincerely thank the hundreds of Brothers who have contributed so generously to the undoubted success of this little department which he hopefully launched only a few months ago. We faithfully promise to reward your kindly support by collecting, during the winter, a bunch of prizes which will add a real zest to the re-opening of the contest next spring.

Skinning the Cat

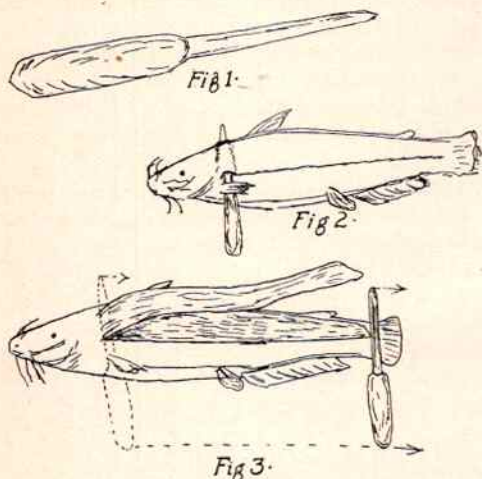
By CHARLES W. CARTER

Winner October Kink Contest

"THERE is more than one way to skin a cat." So the old saw says. But as it does not tell of even one good way, I always considered it a perfectly useless old saw. What is true of cats in general is true of the catfish in particular. There is more than one way to get his hide. And I am going to go the old saw one better by giving the one best Kink for skinning the cat with neatness and dispatch.

First, whittle a hardwood peg the size and shape of a pointed lead pencil. A meat skewer from the butcher shop does very well. If you are going to have much use for it, whittle it from a broom handle or a hardwood stick of similar size, leaving a comfortable handle on one end. (Fig. 1.) Next, with the point of the knife slit the skin of your cat from head to tail into convenient sized strips. Then holding the

head of the fish in the left hand, thrust your peg through under the skin next the head, entering at one slit and emerging at the next one. (Fig. 2.) Now, holding the head



firmly, move the peg quickly from head to tail with the same motion you would make in cutting a long shaving from a soft pine stick. (Fig. 3.) You will be surprised at the ease with which the strip of skin is removed. Treat each strip in a similar way, twist off the head, pull out the guts and your cat is cleaned.

Next roll him in corn-meal—but you know the rest.

REST YOUR BONES

By A. W. SUMMERS

IF you have two bucks that you can spare (and what enthusiastic disciple of Walton hasn't, if he has to steal it?), buy a fourteen-inch red rubber invalid's ring. The only regret you will have is that you didn't do it sooner. It has as many uses as a pocket in a shirt. After you have sat on a hardwood plank in a boat for about three days, haven't you wished you had a Silver's recoil pad on the seat of your pants? The rubber ring will have the same effect.

Then when you made that extra long cast and fell out of the boat, or went under an overhanging snag and were scraped off, wouldn't a life preserver be about the finest thing you ever took hold of? The rubber ring will support any man in the

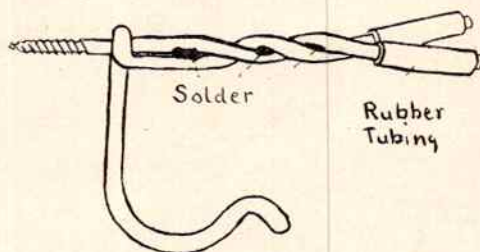
water. Then when you hit the hay and make a stab at wooing Morpheus but find that the buttons in the pants you are using for a pillow persistently come to the top and double-cross you in your wooing—take your rubber ring and find that it isn't half bad as a pillow.

Slip each arm through one and let rest on the shoulders and you will find that you can hardly get them off in the water unless you are a contortionist. A woman that never swam a lick can swim for miles with two of the rings arranged in this way. In case of sickness they come in handy. I have heard they are one of the finest things in the world in a long drawn out session of the great American game of draw poker. (This latter suggestion will probably be of no use to a fisherman.) In a forty-mile ride in a buckboard and on numerous other occasions you will find it worth the money. It will take up about the same room in your tackle box as a reel and will go in a much flatter space. On the whole there are only a few things in my tackle box that are more prized than my cushion. Buy one and if you do not like it you can cuss the Editor all you like.

THE CLOTHES HOOK ROD HANGER

By J. E. D.

TAKE an ordinary twisted wire clothes hook and slightly solder the place where the wires are twisted together. Then cut off the end of the loop as shown in the diagram, and slip a short piece of rubber tubing over each of the points.



In our fishing camp we always put these hangers up in pairs. The first pair should be put up as high as one can conveniently reach, one at either end of the wall. The next pair goes about four inches lower and the same distance inside of the ones above. And so on down the wall. The

first man in at night winds his line from hook to hook on the upper set of hangers and hangs his rod in the fork at either end as convenient. The next man in takes the next lower pair. These hangers are also very convenient for handling the joints of rods that are being repaired or varnished.

TROLLING FOR CALICOES

By IRA DINTAMAN

HERE is a Kink that the brothers will find handy when trolling for the Calico, Strawberry or White Bass. Take any kind of a rod upwards of nine feet long (the longer the better), and swing out your line a foot or eighteen inches longer than the rod. Attach your sinker about four feet from the end of the rod. Use a No. 20 Cincinnati bass hook. For bait cut about an inch and a half from the tail end of a small perch or blue gill. Split this lengthwise so as to leave one half of the tail fin on each piece. Run the hook through the larger end of the piece. Now you are ready to troll.

Set your rod across your knees so that it reaches up and back at an angle of about 20 degrees or the pitch of an ordinary shed roof. The lead sinker should be about six or eight inches above the surface of the water, causing the line to hang straight down. This is one of the chiefest reasons for the success of this Kink.

Row slowly along near the edge of the weeds. When the fish strikes he first takes up the slack that the hanging lead gives him and by the time this is gone he has hooked himself. Now is the most critical moment. Do not jerk to set the hook. If you do you will lose nine out of ten fish.

These fishes have very tender mouths and the hooks tear out most readily unless they are carefully handled. Just lead the fish gently to the side of the boat and lift him quickly in. These little fellows are really quite gamy in proportion to their size and their tender mouth makes landing them quite a sporting proposition.

I have caught as high as fifty-five of these fish in one afternoon by the use of this Kink and did not wear out more than eight or nine tails for bait. One can also employ angle worms as bait in the same manner, hooking the worms but once through the middle of the body. The boat should be moved along very slowly, just keeping the bait in motion. A paddle can be profitably used in place of oars and two people can readily fish from the same boat by this method, with equal success.

MACARONI FOR BAIT

By GILBERT DUST

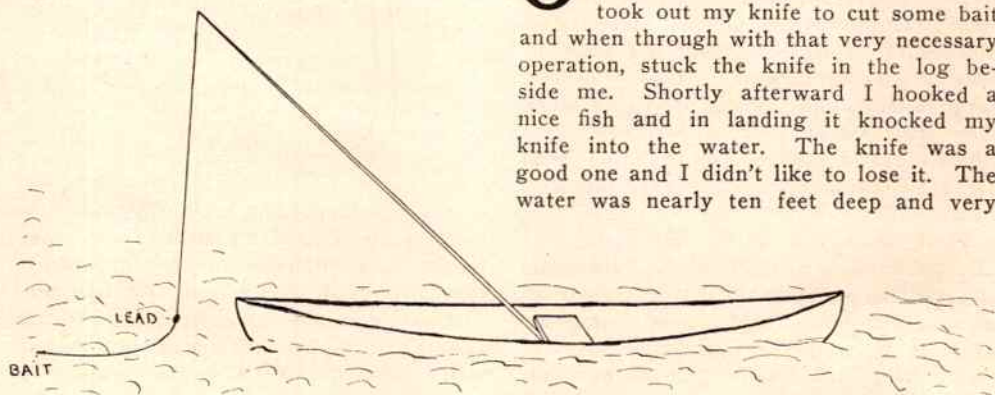
GET a dime's worth of macaroni and put it in a pan of cold water, breaking the macaroni into lengths of about three inches. Put it on a fire and allow it to get hot through, or until it is tough and limber and then take it off and pinch into lengths of about one and one-half inches and it is then ready for use.

To bait your hook simply string on like a worm and you will doubtless find you have a good all around substitute for such fish as channel cat, white perch, buffalo, carp and suckers.

A PICK-UP KINK

By CLARENCE GRAHAM

ONE day I was fishing from the end of a log overhanging the creek. I took out my knife to cut some bait and when through with that very necessary operation, stuck the knife in the log beside me. Shortly afterward I hooked a nice fish and in landing it knocked my knife into the water. The knife was a good one and I didn't like to lose it. The water was nearly ten feet deep and very



clear. With my belt axe I cut a pole about twelve feet long and split the small end for about six inches back. Then I forced a small stick down into the split so as to hold it apart. After that it was a simple matter to shove the stick down over the knife. The small stick fell out as soon as

home without being cumbersome and without ice on a warm June day, although the location of the fishing waters made it necessary to travel all day and make five changes en route.

First the fish were gutted and gilled and washed clean inside and out. Then the



the knife was forced back far enough and the spring of the wood held the knife strongly. By means of this Kink a fellow could pick up a rod or almost any kind of an object that had fallen into the water.

A SIMPLE LINE DRYER

By GEO. C. WHITNEY

A VERY simple line dryer Kink is to pull the line off of the reel or spool into a pile or heap, just as it piles naturally on the floor, chair, table or dresser. Leave the end lying to one side so as to be easily found when dry. No folding contrivances or rusty nails whatever to bother with and always some place handy. When dry run top end through rod, fasten to reel and wind up. Simple as rolling off a log and no "kink" either.

A Back-Lash Tool

A very handy back-lash tool, and I believe an improvement on Bro. Field's smaller, lighter, and neater, is a woman's crochet needle, size No. 6.

A KINK ON FISH TRANSPORTATION

By GEORGE RAVELING

HAVE you ever taken a trip to some isolated lake, fished for a couple of days and captured a fine mess of the finny beauties and on the morning of departure turned them all back out of your live box into the lake on account of not being able to procure ice, and a pail to carry them in, or because both were too cumbersome to handle while changing from one train to another?

Most of us have, however badly we have wanted to take just a mess home to our family or a couple to pass along to some doubting Thomas who seemed skeptical about our tales (tales, mind you, not tails), of what we caught. Here is how I succeeded in taking a nice little bunch

insides were stuffed with green cottonwood leaves and more leaves spread upon several thicknesses of paper upon which the fish were placed, and another layer of leaves over the fish. Then the bundle was rolled up, being careful to overlap the ends, and several more papers wrapped around the outside.

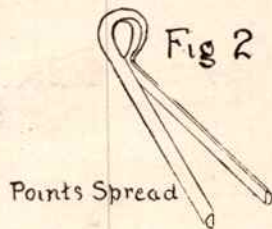
The package, upon being unwrapped after the journey, disclosed the fish in as fine shape as when they left the lake; and let me tell you, they look real tempting in a bed of nice green leaves.

If leaves are not available good clean slough grass will serve the purpose just as well.

THE COTTER PIN EMERGENCY TOP

By DWIGHT HARRIS

ONE day while on a week's fishing trip I happened to lose the tip joint of my favorite steel casting rod. As I did not want to miss a lot of fun, I decided to see what I could do about it. Rummaging around in a box of old nails, screws and other junk, I found



a cotter pin. Immediately an idea came to me. Fastening the cotter pin firmly by the ring end I bent the shank to an angle of about seventy-five degrees. (Fig. 1). Then I sprung the points slightly apart (Fig. 2), and put my "emergency tip" in place. It really worked surprisingly well until I could obtain a new tip joint.

LEADERS FROM HOOK SNELLS

By C. M. BYERLY

HERE is a Kink I have by which I make gut leaders from the snells of damaged hooks.

First, remove the broken or damaged hooks. Then, soak the snells in water a few minutes or until they are soft. (If you try to tie them dry they will crack or break.) Then lay them as in Fig. 1, and

Fig. I

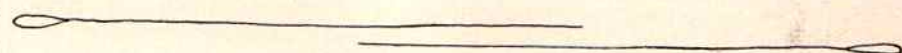
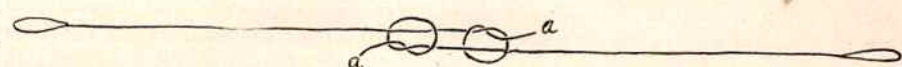


Fig. II



tie a common knot in each and around the other, as in Fig. 2. Pull both knots tight as possible; then pull them together tight and cut off the ends (a) close to the knot.

I now have a gut leader with a loop in each end and about twelve or fourteen inches long. Two of them may be looped together, making one twice as long and so on till I have a leader of the desired length.

By using my old leaders this way, I always have a good leader free of all cost and also the satisfaction of making them myself.

THE SLIDING FLOAT FOR BAIT CASTERS

By C. T. WINSTON

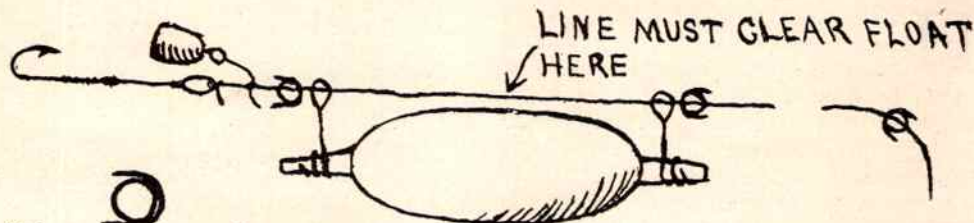
DID you ever fish a small stream with low, overhanging branches all along and want to place your minnow into a likely looking spot on the other side, and find that most of the time you caught a bunch of leaves, or when you did

being made, thereby placing all the weight practically at one spot, then lets the bait and sinker drop to a pre-determined depth. To make the outfit procure an oval cork float about one inch diameter by four inches long (the short, thick ones or the very slender ones will not work) and some "Gem" paper clips. Straighten a clip and make a loop about $\frac{3}{16}$ " or $\frac{1}{4}$ " dia. in end. Then wrap wire tightly around stick in

end of float a couple of times and cut off. Repeat operation on other end of stick and float is ready. The rings must be far enough from stick to prevent the line from touching side of float (see sketch). Now make up a dozen or so of rings about $\frac{5}{16}$ " inside diameter of the same material as used for guides on float. A lead pencil makes a fine former for this. Make a turn and a half around pencil, letting wire touch all around. Allow the ends to project slightly, which will make it easier to insert line.

The paper clips are somewhat springy and do not rust easily, and I believe are better than copper wire. To use outfit run line through a ring and force it between turns at depth wanted, slip on float and place another ring just above end of line. Attach sinker of proper weight just below this ring and then the hook.

Bait hook, reel up line until upper ring touches tip of rod, grasp line between



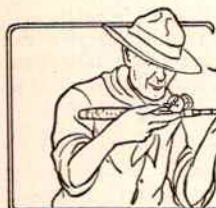
Rings for line.
[Make several]

miss them you couldn't cast half way across? Well, I have, and to get my bait across I worked out the following:

An attachment on the float which lets it rest just above the sinker when the cast is

thumb and finger just above bait, lower rod to horizontal position and snap it out.

In lake fishing this kink keeps the minnow from getting way down in the weeds and hiding from the big fellows.



ANSWERS TO ANGLERS

Kindly address all communications to this department to Editor Angling Department. Always sign full name and address. It is impossible to print replies in the magazine to all letters received, and we always like to send a direct reply.

A PLACE TO REST

In the April number of *Outer's* I noticed that J. G. M. asked the editor if he knew of a nice place in the south where one can get some nice fishing in small waters, also a few weeks of rest and mild weather.

I don't know of any place that would suit him better than up on the Cumberland, above the Falls, McCreary County, Ky.

Cumberland Falls Station is on the Q. & C. and about one hundred and thirty miles from Louisville. Arriving you have a drive of fourteen miles over a good mountain road. Having let "John Ballou" know that you are coming, he will meet you in the afternoon at the station, and you will reach his camp about six-thirty. After one of "Aunt Mary's" good suppers you slide into one of the clean, wholesome beds and forget the journey by train that may have tired you. Before you know it, you hear John's "B-r-e-a-k-f-a-s-t!" Up you jump, slip into your old clothes, souse your head and face in cold spring water, and opening your door, find the world round you wrapped in a gray mist. Going into the dining room you eat flap-jacks, bacon, fried apples, etc., as you never ate before.

Last year about the 25th of September my husband and two men were there. They started out one morning, just after breakfast, with tackle, lunch and a bucket of fine chub minnows (which John keeps on hand when he has guests). Going down the hill, through the woods, they were soon at the river, where they found John waiting to row them up river about a mile, and about half way to the "Pitch."

Below the Pitch the river has a drop of about three feet to the mile and the depth of the water will not average over two feet on the sandstone bottom, except in the "holes" or pockets, which you will find from three and one-half to ten feet deep, and of different lengths and widths. Ideal hiding places for bass.

The Cumberland river above the Falls is a succession of shoals and pools. That morning those men took twenty odd small mouth bass (and some blue cats), weighing anywhere from a pound and one-half to four, using live bait and spinners.

One of them caught three beauties in less than a half hour, without moving a foot, which totaled a little over six pounds.

Everybody was at home by eleven-thirty and there was sure fish for dinner.

Each year the fishing in this water is getting better, since the game warden is a real thing. There are a number of little creeks that afford clear back water, should the river be on a "rise" and muddy. John Ballou will board you for one dollar a day, and when you leave you feel you have had your "money's worth" and then some.

J. W. P., Howardsburg, Ky.

A WORD FOR OHIO

EDITOR ANGLING DEPARTMENT: I buy, at news stand, *Outing*, *All Outdoors*, *Field and Stream*, *Outdoor Life*, *Outer's Book*, *Sports Afield* and *National Sportsman*, so you know what kind of a crank I am. Just now I am peeved because not one of you seem on speaking terms with Ohio bass and we've got just lots of bass here. Ohio's fishermen pack up and go to Michigan to fish, 'cause the magazines tell them fish can be caught there. Not a word do they tell about Laramie Reservoir, fifty miles north of Dayton, where a "feller" caught eighty bass in ten hours with a strip of side-meat for bait. Took a whole dime's worth of bacon, though.

J. J. C., Dayton, O.

[We have long known that Ohio was yearly getting to be a better and better state for fishing as the result of the excellent protective and restock work being done by several very active societies within the state. But if you see little in print about Ohio fishing it is largely the fault of Ohio fishermen. Unless you boys tell us about local conditions we can't make much of a report on them. At that, two of the winners in our very successful Tackle Description Contest of last year were Ohio anglers.

But about your "feller" who caught eighty bass in ten hours—Great Scott! who let him do it and how dare he boast about it afterward?

I was once on a famous bass lake up in northern Wisconsin when "they" were "coming." The limit in that state is fifteen bass. Well, there were three of us in the boat and we happened to strike a bar where all the small mouths in the world seemed to be trying to commit suicide on our hooks. In just one hour we landed forty-two bass. Then we quit and by mutual consent promised one another

never to refer to that hour with pride. Also we turned loose every blessed bass that was not too badly hurt to have a sure chance of living. I think we brought back only about a half dozen to the resort and never told our story until long afterward.

I will wager that if the identity of your eighty bass man ever becomes known to some of the active game protectors in your state he'll "wish he hadn't done it," even if there was nothing illegal in the proceeding.—H. N. K.]

HOW TO KEEP WORMS

EDITOR ANGLING DEPARTMENT: Can you give me advice on how to keep worms and frogs in captivity well and healthy? What to keep them in and what to feed them?

C. E. D., Milwaukee, Wis.

[A worm farm may easily be made out of any old bucket, a half barrel or a fairly tight box. The container must be tight simply to prevent the worms from crawling through the cracks. Bore a fair sized drainage hole in the bottom of the container and cover this over with wire screening (copper preferred, as it does not rust). Fill the containers with light garden soil and place where they will get only a reasonable amount of sunshine and not too much. Some people place their boxes and buckets above the ground. Others bury the bottoms of them an inch or two deep. Either method is successful. It is well also to cover the tops of your "farm" with screening, as the birds will soon discover it and play the "early bird" stunt if you do not.

Plant a half dozen good healthy worms in each container. They may be fed by pouring a little skim milk or kitchen slop on the surface of the ground every day. A very little will do. This may be alternated by stirring lightly into the surface a tablespoon or two of coffee grounds or cornmeal. The quantity, of course, depends on the size of your farm. The worms will soon multiply surprisingly.

Frogs are slightly harder to keep for any great length of time, as they demand live food. Crickets, grasshoppers and flies may all be introduced into the cages where the frogs will capture them at leisure, just as they do in a state of nature. This means, of course, that the cage must be covered with netting close enough so that the insects cannot escape. Common earth worms will also be taken with avidity by your frogs. The frog cage should have a shallow pan of water in it and provision for sunshine as well as shade. I have seen some frog cages that were kept in sheds and cellars where the sun never reached. Did you ever notice how frogs enjoy basking in the sunshine when in a natural state?

If frogs are to be kept over winter they should be provided with a box at least a

foot deep filled with rather soft mud. Get the regular black marsh muck if you can. Place this box in the cage when fall comes around, and at the proper time the frogs will bury themselves for their winter's hibernation. You can bring them out early in the spring when nobody else has any frogs, by moistening the soil in the box and placing it near a stove or furnace where it will be gradually warmed up.—H. N. K.]

FISH AND AIR

EDITOR ANGLING DEPARTMENT: The water in our streams was very low last winter, standing for the most part in deep holes with the stream sometimes not running for miles between. These holes froze over and many of the fish died under the ice, although there was apparently plenty of water to support them. However, there was no place where air could get to the water, as is usually the case in the open riffles at the ends of the pools. Since the river was not running there were no riffles. Can it be that these fish died for lack of air? The fish picked up dead were all croppies, sunfish and buffalo, but no bass. Can this be because the bass hibernates and the other species do not?

A. R. N., Sawhuska, Okla.

[A. R. M. has absolutely answered his own questions. Fish do die when the water they are in is completely sealed off from the air, and bass are less affected by this kind of conditions than other species because they hibernate in winter and consequently require but a very slight amount of oxygen.

Incidentally, a good many of those fish might have been saved if the local sportsmen had gone around and cut a few holes in the ice at each pool. It is surprising how much good even a small hole will do in this regard. In some of our northern states it has often been claimed in defense of ice fishing privileges (and pretty near proven, too) that the number of fish preserved by reason of the holes made by the ice fisherman very greatly exceeds the number destroyed by his hooks and lines.—H. N. K.]

ANOTHER METHOD

EDITOR ANGLING DEPARTMENT: Have just read Brother Katz's article on the "Middle Branch" knot. It is a good one and while I was experimenting I found that I could get the same results by a shorter method, which I will endeavor to explain. First make a knot as if to tie an ordinary hard knot, but instead of drawing it up tight separate the strands where they lie together and put the loop through between the strands. Then draw up tight and you have the same knot. I enjoy reading the Outer's

Book very much, almost as much as going fishing. E. E. R., Louisville, Ky.

[This method works very nicely on string. When attempted with gut, however, it has a great tendency to kink or break the material.—H. N. K.]

"BY THE MOON"

EDITOR ANGLING DEPARTMENT: In this section of the country there is a great deal of fishing and planting "by the moon." I have heard from several sources that game fish won't bite unless the "moon is right" (on the increase). As I have noticed that you prescribe for all ills, so I wonder if you can tell me whether there is any reason why fish shouldn't bite except when the moon is on the increase, or is this some myth which has been handed down from father to son?

B. W. S., Richmond, Va.

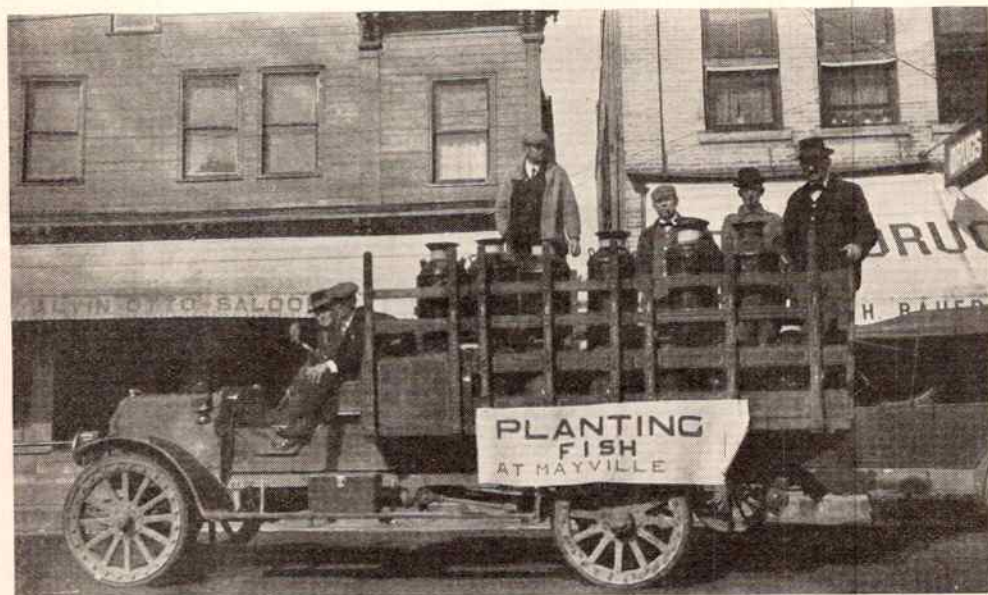
[Here's where we give up. Goodness knows there are plenty of superstitions regarding every human activity and when it comes to fishing, every individual seems to have a few pet hoodoos and luck-bringers of his own, in addition to the general formulas that have gained universal credence. What boy does not know enough to "spit on the bate for luck"?

Sho! I've done it myself plenty times and so have you. And didn't we always get the luck—sometime? Of course. Likewise it is true that some of these ancient superstitions seem to be surprisingly supported by facts. Yet which are true and which untrue—who can say?

When it comes to fishing by the moon—well, now, would you really give up a fishing trip just because Old Dian was not on the increase? I thought so. So would we.—H. N. K.]

A Good Example to Follow

Here is a scene that should be duplicated annually in thousands of places over the country. The sportsmen of Mayville, Wisconsin, know the value of restocking. They secured a shipment of twenty-five cans of fine perch fry and made a sort of gala occasion out of the planting. The result of the banner displayed on their big



motor truck will undoubtedly be a beneficial effect on even the "near sports" who saw it. How about your own community, dear reader? What are you doing personally to help keep up the local supply of fish and game? Thousands of you, I know, are actively doing your part. But you passive ones—why not wake up? H. N. K.



DOGS AND THEIR CARE

Edited by A. F. HOCHWALT

This department is intended for the exchange and discussion of all subjects relating to the Dog in his many spheres of usefulness; his breeding, training and handling, his care in health and in disease. Free usage of these columns is extended to our readers, barring only such communications as obviously lack general interest, courtesy or common sense. All lovers of man's canine friends are invited to contribute, but under no conditions will personalities be allowed.

The Grouse Dog

IF you were to ask an old time hunter whose experience in the quest of upland game embraced all the various kinds to be found in this country, which class of shooting is the most inspiring and, at the same time, the most elusive, he would no doubt tell you it is that of the ruffed grouse, in the northern and New England states. He would also say further that in order to enjoy all that charm and delight hunting this wiley bird of the forest, one must have a dog perfectly broken for the purpose; a dog which has become wise to the ways of the game that he is hunting, and one which has the nose as well as the intelligence to hunt the coverts of a grouse country.

Speed, range and style count for little when a dog is to be used in the woods, but brains, control, nose and perfect breaking stand for much. It is for this reason that one hears so many sportsmen say that they cannot enjoy grouse shooting, for so few have the right kind of a dog. And still even some of the fastest, widest field trial performers on quail have developed into the greatest grouse dogs. This proves that field trial dogs have brains and can adapt

themselves to conditions, if they are given the opportunity.

One of the noted field trial winners of eight or ten years ago was Champion Prince Rodney, but after F. M. Hall purchased him and took him to his home in Michigan, the dog was used regularly to hunt ruffed grouse, and he proved to be a wonder in this respect. When he was on the field trial circuit he was noted for his extreme speed and range, and even after he had been hunted on grouse for a season or two, as soon as he was turned down in open country where quail were likely to be, he went away in that same old field trial form. Back into the Michigan woods again, and he was the careful, steady dog that one needs for covert shooting.

Some dogs have the intelligence to understand conditions, and Prince Rodney was a dog of that sort, but it is not often that one is fortunate enough to obtain a dog which is equally good on quail and ruffed grouse. That is why such a specimen is worth almost a fabulous price to the sportsman who hunts all kinds of upland game.

A few years ago the Pennsylvania Field



HEAD OF SIR ROGER DE COVERLY, II.

Trial Club inaugurated a grouse trial which was held in the mountain fastnesses of the western part of that state. Naturally this first attempt was crude, for the rules were new, the judges inexperienced and the handlers unused to the new conditions. However, that trial awakened a renewed interest in the perfectly broken grouse dog with the result that the trials held subsequently to that brought forth a different class of competitors, real grouse dogs, wiley enough to hunt the bird of that region. Last year the trials were a success, and this season they were equally so; furthermore, they brought out a large attendance.

What is more, however, it stimulated trainers of that section to train grouse dogs, not only for these trials, but also for shooting, as the demand for this class of dog is always large, especially in Pennsylvania, where the ruffed grouse may be found in all his natural glory, in numbers that will insure a good day's sport at any time during the season.

Some have asked me at various times, "Which is the better dog for grouse, a pointer or a setter?" There can only be one reply to this. "It all depends upon the individual." I have seen good short-haired grouse dogs and good long-haired ones. The dog with a nose, a fair amount of intelligence and the stamina can be developed into a grouse dog, if he is given enough experience. After all, it is experience which counts mostly, whether it is in men or dogs, but there are some men who can never make good in any calling, just as there are some dogs which will never develop into grouse dogs. Usually the latter kind are good for nothing else.

I have seen some splendid grouse dogs among Irish setters, and I have seen one Gordon setter that was par excellence in this class of hunting. And I have seen some grand pointers, too. In breaking a grouse dog, much also depends upon the intelligence of the man who is doing the breaking. Many a good dog has been ruined by the man who endeavored to break him, simply because the dog knew more

than the man. Sometimes when human intelligence is placed alongside of canine intelligence, it is the latter which counts for the most, in the final analysis.

In breaking a dog to hunt grouse, therefore, first be sure that you know more than the dog and, secondly, keep a level head. Many handlers or would-be breakers get more excited than the dog when in the field with them. How, then, is it possible for them to break a dog and expect him to be level-headed under any and all conditions when there is something wrong with their own grey matter?

When one finds a perfectly broken dog which understands everything that is expected of him, it may be taken for granted that the man who broke him possesses the proper mental equipoise, for the handler's personality is invariably reflected in the dog. This is particularly so of grouse dogs, but one finds this to be the case with setters and pointers broken on quail also. A nervous, excitable man will never make a successful breaker of any kind of a dog, much less one which is intended to hunt the wildest bird on this continent.

The illustration shown here is of Sir Roger de Coverly II, broken by G. B. Ryman, of Scranton, Pa. This dog is hunted regularly in the coverts of Pennsylvania and he is considered a perfectly broken dog. Perhaps some of his grouse instincts are inherited from his ancestors, for he comes from a family of grouse hunters. His sire was the famous Sir Roger de Coverly, owned by Dr. Beck, of Wilkes Barre, and we may say *empassant*, that the Doctor always breaks his own dogs, for the pleasure he gets out of handling them and because he is a past master at the art—for art it is. The Doctor is a grouse shooter who loves the hills of Pennsylvania, but he would not think of going afield without a thoroughly broken dog. Sir Roger de Coverly was that, and his son, Sir Roger de Coverly II, is a fitting scion of his illustrious sire, which not only won at all the bench shows, but at most of the field trials he was entered in also.





The English Greyhound

ALTHOUGH the popularity of the English greyhound has been waning here in America of late years, due no doubt to the legislation in many states against coursing, there are still a number of admirers of this rare old breed scattered about in various parts of the country and particularly in the West, where this fleet footed dog is still used in coursing the jack rabbit and also in running down coyotes.

Twenty or more years ago coursing in America was one of the greatest of outdoor sports in which dogs played a prominent part, and at that time the greyhound was in the zenith of his glory, and it is really a pity that the sport of coursing should be on the wane. It is true there are still some very interesting coursing meetings held, but nothing like was the vogue two decades ago.

In the East, this breed is only in evidence

at bench shows, and the greyhound in repose, while he is a beautiful piece of animal flesh, is nothing like when he is in action, for there is no more speedy animal in existence, and when one once sees him as he dashes from the slips after a jack rabbit on the great plains of the West, and notes his ease and grace as he runs, he will never take the same interest in him as he appears on the show bench, for he looks like a different animal there.

Fortunately, the West still adheres to this most graceful of all of the canine breed, and it is there where he is seen as the real utility dog that he was always intended for. As a companion the greyhound stands very high in the estimation of the dog lover, for he is intelligent, graceful, cleanly and an ornament wherever you put him.

Among all breeds of dogs, the greyhound is the only variety that has retained his



THE GREYHOUND, "TROUBLE BREWER."

type from the earliest days, but that is easily accounted for by the fact that he was bred for one purpose only—speed. These were the hounds kept by the Pharaohs of Egypt, and centuries before the Christian era Xenophon used greyhounds for coursing which had been sent him by the Romans from Britain.

The ancient sculptures, vases and, in fact, all of the specimens of early Egyptian art, depict the greyhound either in action or in repose, and when one studies these productions, he will find that the type of that day varies very little from that of this twentieth century.

This, however, is not to be wondered at. In those primitive times, the huntsman necessarily required a fleet-footed dog to overtake and bring down his prey, for there were no firearms then, and most of the hunting depended upon the dog. Thus it was that a dog faster than the prey that was hunted was required, and that accounts for the speedy greyhound. The fleetest specimens were interbred until this end was attained.

We have no means of knowing whether in ancient times the greyhound hunted by sight or scent, but it is generally supposed that he was a sight hunter then, as he is to this day, and to this group belong not only the greyhound, but the Russian wolfhound, the deerhound, the Irish wolfhound, and, in fact, all of that family—they are the sight hunters of the dog world.

From ancient works on the dog we glean that there was another, larger and heavier dog in existence, which was used to unravel the scent of game, then, after the prey was sprung, the fleet dogs were turned loose after they caught sight of it. It is supposed that the hounds of the scent hunter family—foxhounds, bloodhounds, harriers, beagles—sprang from the dogs which found the prey, while the sight hunters of the present day owe their origin to the fleet-footed dogs of the days of the Pharaohs and earlier.

The study of this ancient canine history is most interesting, and we would like to go into a more prolix dissertation, if space permitted, but as this is out of the question, we must content ourselves with only this superficial glance.

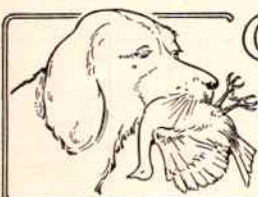
At the present time, the greyhound is just as popular in England as he ever was, for in the tight little island coursing is still one of the great sports in which the dog is the leading figure. The Waterloo Cup is the great coursing event of England, at which sixty-four greyhounds, the best that the country can produce, compete annually for the valuable trophy and the rich purse that is offered. In looking over the records of that great event, such noted dogs as Master McGrath, it of Fashion, Fabulous Fortune and Fullerton stand out prominently. The last mentioned dog, which was the property of Col. North, won the famous Waterloo Cup four times out of five starts, and his record has never been surpassed up to this time.

Fullerton was a brindle dog, rather large, but nevertheless he possessed the speed and the stamina, and when he was in his prime no greyhound ever equaled him. He was marked very similarly to Trouble Brewer, a reproduction of whose photo we publish here. The latter dog was a smaller animal than Fullerton, but he was just as fleet and quite "handy with his teeth." Trouble Brewer was the property of L. F. Bartels, of Denver, who several years ago was among the leaders in coursing in this country.

At the present time there are still a number of fanciers who breed greyhounds for practical purposes, and on a recent trip to the Northwest the writer had the opportunity to look over a number of these hounds in South Dakota, where they are used in private matches mostly, in running the jack rabbits that abound in that country.

For real, exhilarating sport, commend us to the greyhounds and the jacks of the plains! If a few chases that are to be seen up there do not set the red corpuscle to tingling in a man's veins, then his sporting instincts are surely at a very low ebb, indeed.

The greyhound may have lost some of his popularity in America, but there will always remain a few of those dyed-in-the-wool sportsmen who will cherish this dog of ancient lineage and continue to breed him true to type, fostering the blood lines that they possess with jealous care, for the greyhound is more than a mere pet of the show bench—he is the utility dog of all time.



CANINE QUERIES

In this column we shall endeavor to answer all questions relating to dogs and give advice for their treatment when ill. Kindly address all communications to Editor Dog Department. Always sign full name and address and enclose self addressed stamped envelope, as it is impossible to print replies in the magazine to all letters received.

THE SKYE TERRIER

EDITOR DOG DEPARTMENT: I am figuring on getting a skye terrier as a companion for my children and I am wondering whether you could put me in touch with some reliable kennel where I could obtain a good specimen. If you will be good enough to direct me in this matter I shall greatly appreciate it. (2) I would also like to know what you think of the skye terrier as a companion for children.

P. B. S., Chicago.

[The skye terrier is a rather rare breed in this country and even at the largest shows in the East only a few specimens are shown. I would advise you to place a small ad. in the want columns of Outer's Book which will no doubt put you in touch with those who are fostering this breed. (2) The Skye terrier has a very profuse coat, so long that it touches the ground, consequently he requires a lot of care and attention to keep him in good condition and only constant grooming daily, will keep him in a presentable way. Furthermore, a dog of the Skye terrier's profuseness of coat is likely to shed more or less at all times, and unless he has the best of attention you are likely to have hair all about the house. If you want a dog of the terrier variety for a house companion for children, why not get a Scottish, a Sealyham, a fox, or a Boston terrier? They are likely to be better playmates for children than the Skye. As a real playmate for children, however, I would personally prefer a dog of the spaniel variety, as they are milder tempered, easily trained and more amenable to discipline than any of the terrier varieties which are all more or less restless in temperament and inclined to snap when irritated. A small cocker spaniel, I should think, would answer your requirements better than any other dog among the small breeds.—A. F. H.]

RUSSIAN WOLFHOUNDS

EDITOR DOG DEPARTMENT: I am one of your subscribers. In your next issue kindly furnish me with the name and address of some one who imports, or at least deals in Russian wolfhounds. I prefer an importer. (2) Also furnish me with as accurate a description as possible of an Airedale terrier, say, one year old, including height, weight, color, markings, etc.

C. E. W., Cedar Rapids, Ia.

[The principal breeders and importers of

Russian wolfhounds in this country have been the valley Farm Kennels of Simsbury, Conn., of which Jos. B. Thomas is the proprietor. We believe, however, he has now dispersed his kennel and only keeps a few dogs. However, there are a number of kennels which own and breed hounds from these and other importations. Only a few years ago the Valley Farm Kennels showed from forty to fifty Russian wolfhounds at the principal Eastern shows and the display was quite unusual, for most of the dogs were either imported directly by Mr. Thomas or were descended from imported stock. Among the dogs which the Valley Farm Kennels showed were the celebrated Kopchic O'Valley Farm, Sorvan O'Valley Farm, Nevski O'Valley Farm, Bristri of Perchina and Rabsoi O'Valley Farm; all of which were importations, and champions on the bench. Mr. Thomas secured all of his dogs direct from the kennels of the Russian nobility, who are, in fact, the only breeders of this stately dog in that country. The illustration which we show herewith is the celebrated Champion Genest of Rousseau, owned by Dr. Reid, of Winnipeg. This dog is also an importation and has been shown fearlessly at all the leading shows of the United States and Canada and has won hundreds of prizes. The photo from which this halftone was made was taken in July, 1914, when the writer judged the dog at the Winnipeg show. Genest was up in years at that time and I believe this is the last time this great old dog appeared in public. However, it will be seen at a glance that despite his years he is still a grand specimen standing well on his legs and possessing all that splendid character for which he was always noted.

Among other breeders of the Russian wolfhounds in this country at the present time are the Lorrain Kennels, of 8737 Bay Parkway, Brooklyn, N. Y., owned by Dr. J. E. De Mund; the Ivanoff Kennels, of Bristol, R. I., owned by Dr. Howard Church; the Tatiana Kennels, of Erie, Pa., owned by Mrs. J. C. Hadley; the Fredoff's Kennels, of 43 Tremont Street, Hartford, Conn., owned by Mrs. Geo. O. Kolb, and the kennels of F. S. Byram, Rounfort Avenue, Mt. Airy, Philadelphia, Pa. Any of these kennels can no doubt supply you a puppy from imported stock.

(2) The fashionable color in Airedale terriers at the present time is black and tan, although the lighter colors are still very prevalent also. According to the recently

accepted standard, however, an Airedale terrier should be a rich tan about the ears and head, with darker markings on each side of the skull. The ears should be a darker shade of tan than the other parts of the head. The legs up to the thighs and elbows should also be tan, while the body should be black or dark grizzle. All things being equal, the richly marked black and tan dog would win over a light colored one. His weight should not be less than forty pounds when matured, but the average weight is generally about forty-eight pounds. Some of the older strains, however, run as high as sixty and sixty-five pounds. It is the aim of breeders to strike a happy medium in this respect, and the undersized specimens are to be discounted. The height at shoulder runs from twenty-one to twenty-four inches for dogs and bitches slightly less. Much depends on the care of the Airedale terrier as to his appearance. A dog whose coat is allowed to grow without giving it any attention will soon look rough and shaggy, but with proper care, this dashing daredevil terrier can always be made to look presentable. What we mean by this is exemplified by the illustration of Teddy the Terror which we publish in connection with this article. Teddy the Terror, No. 194532 A. K. C. S. B., is a young dog, whelped July 10, 1914, consequently he is not yet a year and a half old. The dog belongs to the writer (he is not for sale at any price), and was raised by him from the time he was a young puppy eight weeks old. In the October issue of Outer's Magazine, we published a picture of this dog, taken when he was brought fresh from the country, where he was allowed to do as he pleased, and grow up without care or attention. Although he was considerably lighter in weight and smaller in size at that time, his unkempt appearance made him

appear like a much larger dog. The picture shown herewith was taken two months later, but he was first "stripped" and his coat put in presentable shape. Our readers will notice the difference at a glance. Some may imagine the illustration in the October issue and the one here represent two different dogs, but such is not the case. Both are good likenesses of Teddy the Terror, the one showing him in his working clothes, the other on dress parade. After all, with men, women and dogs, much depends upon the grooming. This young Airedale weighs forty-nine pounds, is a rich dark tan in color with a black saddle. In this respect he is all that the standard calls for, although he might have just a trifle more length of muzzle to bring him nearer to perfection. However, with this description and the accompanying illustration, one is enabled to form a fairly good idea of what the Airedale terrier ought to be.—A. F. H.]

TRAINING THE SPANIEL

EDITOR DOG DEPARTMENT: Will you kindly give me some information as to the correct manner of training the water spaniel for cotton tail rabbit hunting and duck retrieving? (2) Also give me some suggestions about feeding.

P. R., Oakland, Cal.

[To give you a lucid enough description of how to train the spaniel for field work, I fear would require more space than is allotted me, and I would therefore advise you to get a book on training. There are not many books which devote space to the training of the spaniel, however. Years ago a volume by Dinks, Mayhew and Hutchinson made its appearance and in this there were several chapters on the training of this breed. This work, however, is now very scarce. A recent work in which quite a bit of space is devoted to the training of the spaniel is "Dogcraft," by A. F. Hochwalt. This work sells at \$1.50 and will be furnished by applying to this department. (2) If you will refer to the September number of Outer's Book you will find an exhaustive article on the feeding of dogs in which you will no doubt obtain the information that you desire. I might say, however, if you have but one dog, table scraps are about the best feed that you can obtain for him and the scraps from the table of any medium sized family should be amply sufficient. If you prefer some of the prepared foods, I would advise you to order some of the dog cakes advertised in our business columns.—A. F. H.]

TREATMENT OF GOITRE

EDITOR DOG DEPARTMENT: I have a dog suffering with goitre. Please find enclosed stamped envelope for information regarding the remedy which was mentioned in



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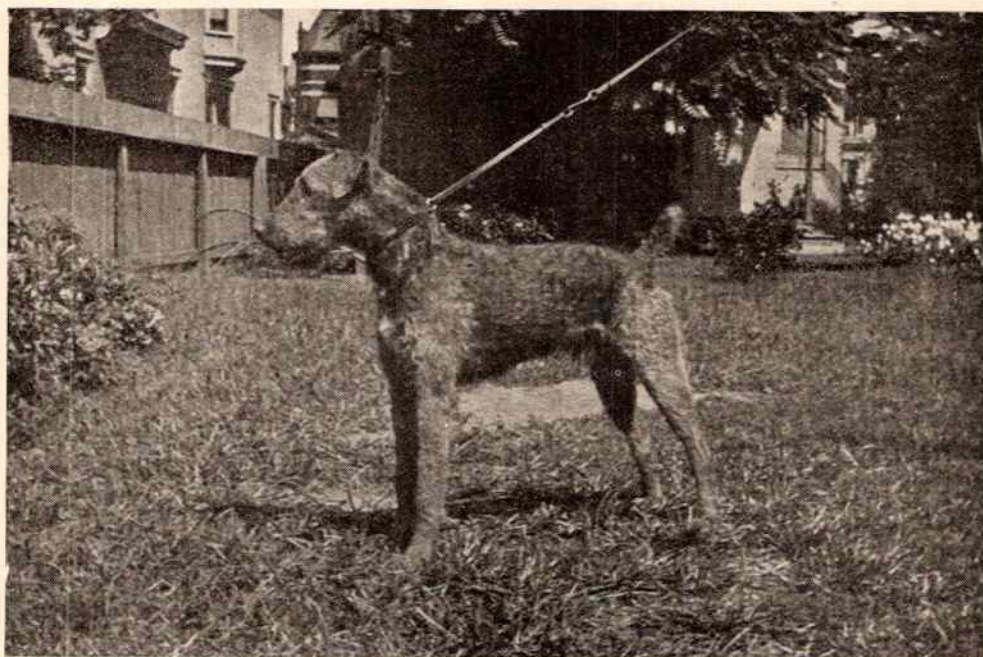
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THE AIREDALE TERRIER, TEDDY THE TERROR ON PARADE.

the August number of Outer's Book.

E. S. S., Milwaukee, Wis.

[The goitre remedy alluded to in our August issue is a proprietary one, which I have always found most effective for all breeds of dogs afflicted with goitre. I have sent you the address of the druggists who prepare it. If your dog has a bad case of goitre I would advise you to send for the preparation at once.—A. F. H.]

DEW CLAWS

EDITOR DOG DEPARTMENT: (1) Does a thoroughbred dog ever have dew claws, or because he has them, is it a sign that he is not bred pure? (2) I have an English setter with all papers and she has dew claws; I have been told that it would interfere with the sale of puppies. (3) Is it advisable to have them removed, and how would you go about it? J. D. C., Birmingham, Ala.

[(1) Dew claws, or side nails, do not indicate impure breeding, and they are likely to occur in the most highly bred dogs. It is simply a reversion to remote ancestors and many puppies are born with them. They are not a deformity, but a useless appendage and kennel owners usually remove them from puppies when they are three or four days old, by means of a sharp scissors, cutting as close to the leg as possible. (2) If you raise a litter of puppies from your bitch you may or may not have some in the litter with dew claws; however, should any be born with them, follow the instructions given above; it is a simple operation in

young puppies. (3) Yes, it is advisable to remove them from your bitch. In doing so be sure to have a sharp scissors, large enough so the blades will not spring when the cut is made. It might be well also to place a ligature on the leg just above the dew claw, to prevent profuse bleeding. This may be removed shortly after the operation, however.—A. F. H.]

BREAKING THE COLLIE

EDITOR DOG DEPARTMENT: (1) I have a collie dog about one year old which I am unable to housebreak. We like him, and of course want to keep him, but things have come to such a point where I have just about decided to dispose of him unless I can break him. Please advise. (2) I have been reading your dog talks in Outer's Book and I wish to say that they are excellent and always to the point. I think this magazine is now without a doubt the best of its kind on the market and I have taken them all. M. M. T., Akron, Ohio.

[Try to catch your dog in the act, punish him severely and turn him out at once. Do this for a half dozen or more times, and I believe you will overcome his bad habits. Some dogs are more difficult to teach cleanliness about the house than others, but by persevering you can eventually break yours if he has any intelligence at all, and most collies average well in this respect. (2) Thank you; it is the aim of the publishers to keep Outer's Book in the lead at all times.—A. F. H.]

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A New Dress On An Old Friend

THE old reliable .22 Savage Box Magazine rifle, the Model 1903, is now wearing the Savage **extra** long tapered forearm, the Savage **extra** full, sharply curved pistol grip, and the Savage corrugated steel shotgun butt-plate that have made the .22 Savage tubular, the Model 1914, famous.

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A New Bird Book

Bird Biographies, by Oliver G. Pike. Frederick A. Stokes Co., New York. Price, \$2.00 net.

No doubt a great many bird lovers have wished for a book that told of birds of other countries besides theirs. In Bird Biographies you will find what you want, as Mr. Pike describes a number of birds found in the British Isles. They are not so much different than what we have here.

He tells of the buzzard, ravens, grebes, warblers, thrushes, and wrens, beside a lot of others.

He tells of their habits in a most interesting way, and he tells a lot in a few words. The country is described, where he finds the birds and their nest in such a way that one can almost imagine he is with the author. I am sure the author has more than the ordinary amount of patience and nerve as there are some very difficult pictures to get shown in the book and there are two pictures showing the author going over cliffs on a rope.

The book is illustrated with twelve plates, loose mounted, on a colored page. These plates are a light brown color. They are called colortype plates, I believe.

There are thirty-nine other illustrations, all from photos by the author. The book

has one hundred and eighty pages.

Mr. Pike is the author of "Through Birdland Byways with Pen and Camera," "Farther Afield in Birdland." These books are both very interesting and instructive for either the young or old bird students.

"Bird Biographies" should be in the library of every lover of birds and outdoor life.

The last chapter in the book is entitled "Bird-Watching." The author tells how interesting it is to watch birds and what to have for an outfit and advice to bird-watcher.

Mr. Pike says: "With a fair amount of patience, a small green or khaki tent, and a good fieldglass it is possible to see almost anything you wish in birdland. And if you add a camera to your equipment, then enjoyment should be complete, for you are able to obtain records of what you see."

In the first part of the book Mr. Pike says: "My pleasure has been greater, because through all these years not a single specimen has been collected to help in my research, and not a single egg has been taken from the scores of nests that I have visited, and no birds have been disturbed, or forsaken their homes through my photographic work."

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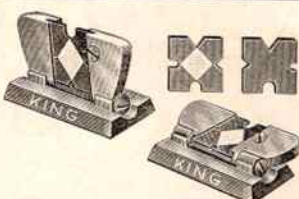
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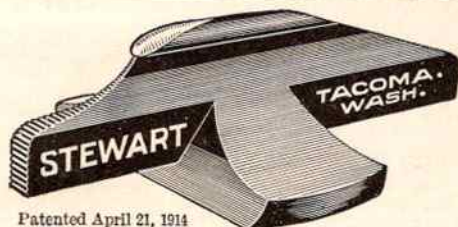
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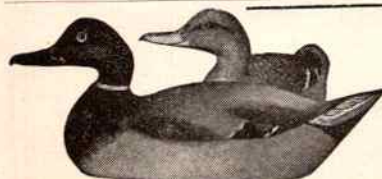
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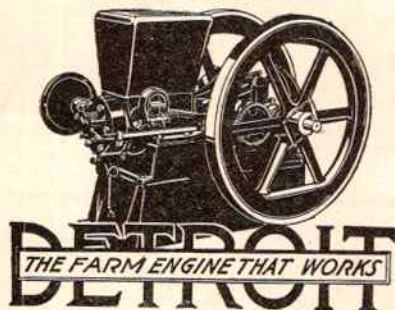


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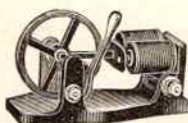
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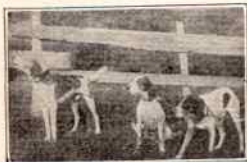


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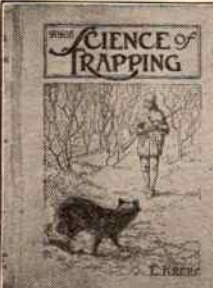


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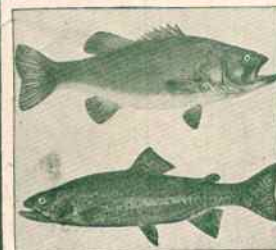


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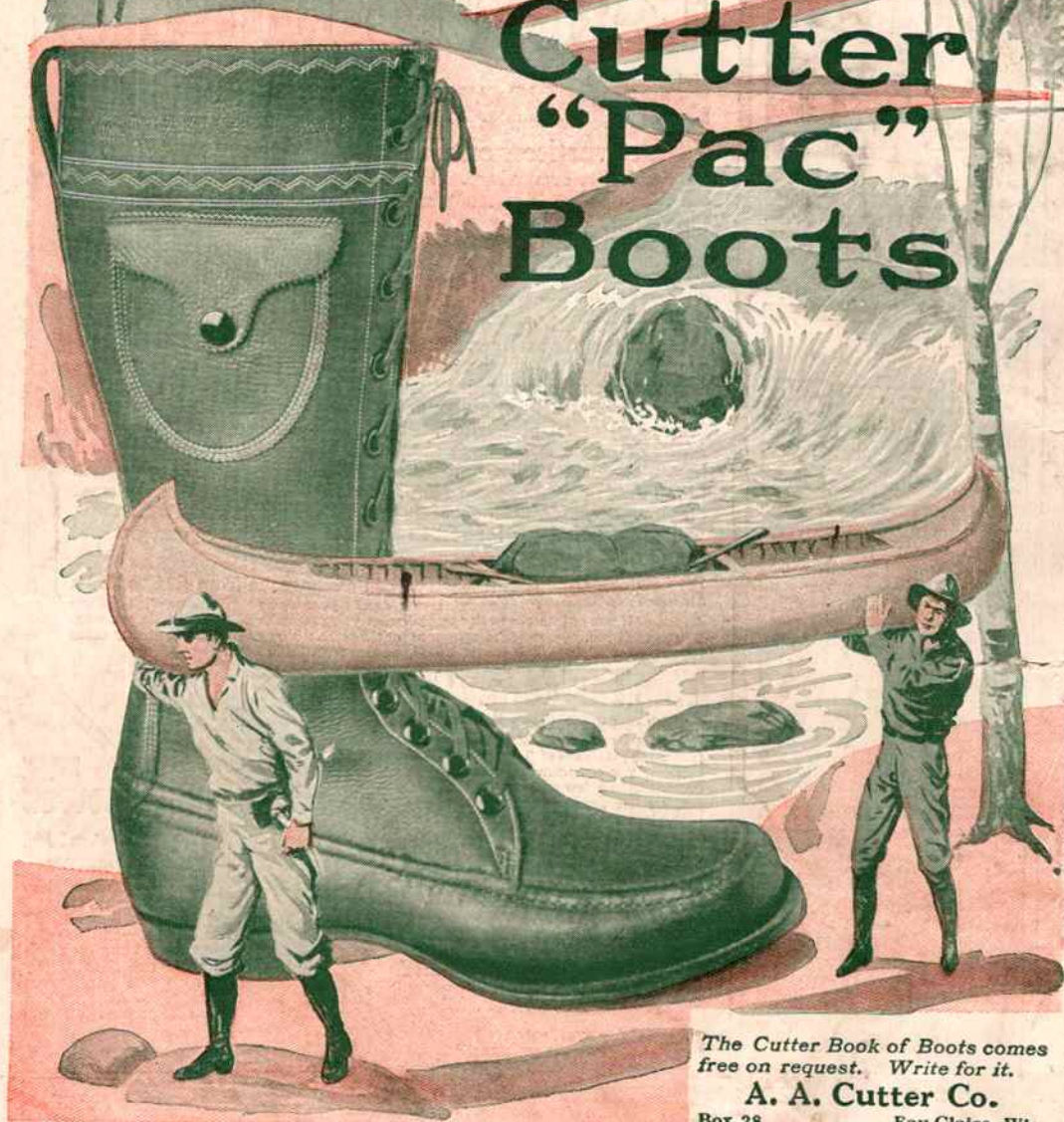
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